Summer 3-14-2016

Information Seeking Behaviour of Masters Students: Affective and Behavioural Dimensions

Aondoana Daniel Orlu
orludaniel@gmail.com

Information Seeking Behaviour of Masters Students: Affective and Behavioural Dimensions.

Abstract.

The study aimed at broadening the appreciating information seeking behaviour of master's students through linking the dynamics of information seeking to emotions and behaviour. This research is an in-depth empirical research on emotions and behaviour among Master's students at Manchester metropolitan university. Emotions and behaviour also have a direct or indirect effect on the style of learning that students use. Previous studies have also highlighted that the discipline and stage of research have an influence on student's information seeking. The current study seek an in-depth understanding of the emotions and behaviour associated with information seeking among Masters Students. Essentially, this does not intend to identify relationships between variables. Rather, it seeks to understand the emotional responsible to the search for information. Consequently, the study follows a descriptor-explanatory design that involves the description of the phenomenon through a review of literature and explanations of such occurrence through primary data collected via interviews with participants. Semi-structured interviews were concluded with a convenience sample of Masters Student in one United Kingdom University studying in a wide range of disciplines, and including both Home and international students. Interview questions were designed to lead interviewees through the stages of their search, including search during proposal development, research design and thesis writing. Various issues associated with decisions, actions, choices and emotions were probed. Interviews were recorded, transcribed and analysed using thematic analysis. Findings of the study confirm that the information seeking behaviour among masters students is organized, and in some cases, random. The randomness of the searching behaviour occurs during the planning stage. Essentially, the finding confirm that many students follows Kuhlthau's model in which at the planning stage the search lacks a clear focus. The findings further indicate that emotional reaction to search causes anxiety, apprehension and confusion. However, should the university seek to design systems of information that minimise emotional response? When you minimise emotions, it affect the user's curiosity to know the unknown. Therefore, systems should maximise positive emotions and minimise negative emotions. This work has contributed to the limited work on emotions within the context of library and information management.

Contribution.

Despite the considerable body of research on the information behaviour of students, few studies have focussed on Masters Students, and none have studied this group during their dissertation phase, taking into account both the behavioural and affective dimensions of information seeking. The study has practical implications, especially for the institution in which it is conducted. It addresses the gap in literature on emotions and behaviour in information seeking in the field of library and information science/management. Consequently, the study unravels the motivators of emotions and behaviour among Master's Students at Manchester Metropolitan University. The research has benefits to librarian because it offers insights about the emotional and behavioural factors affecting search process in the library. And it has also come up with a fundamental question. Should the university seek to design systems of information that minimise emotional response? Wilson, argues that if we design systems of information that minimise emotions and behaviour in the search process, it will affects the user's curiosity to know the unknown. Therefore, systems should maximise positive emotions and behaviours and minimise negative emotions and behaviours.

Keywords: *affective, emotion, cognitive, behaviour and search.*

1. Introduction

The centrality of information behaviour and its development has greatly affected information literacy among students of higher learning in United Kingdom. Masters students in the United Kingdom are unique in that they are expected to conduct a small research study for their dissertation that requires a research-focussed literature review. Despite several research in this area, none has captured the effect of information behaviour among master's students during their dissertations. It is difficult to discuss information literacy devoid of emotions and behaviour in the learning process. This research uniqueness is its ability to capture this particular group during their most important period research.

According to Lopatovska and Ioannis (2011: 575) emotions form an integral part of life. Matteson et al, (2013: 97) describe emotions as episodes of correlated and synchronized changes in all or some of the organismic subsystems in response to internal or external stimuli. Emotions are included in the cognition process. Previous studies have established a causal link between information processing or seeking and emotions. Information processing is a cognitive component that entails an emotional function in which an individual evaluates events and objects. Additionally, emotions have a motivational component that triggers direction, behaviour and preparation of actions (Matteson et al 2013: 698).

Wilson's proposition broadens the scope of the information seeking behaviour beyond the traditional elements discussed earlier. Different models of

information seeking behaviour addressing different information needs have come to existent in literature. Wilson (1997) proposes a generalized model based on an interdisciplinary perspective. According to this model, while information needs vary from one discipline to another, a general model can explain the general information needs across the plethora of disciplines. The view is based on the rationale that the information seeking models relate to the purpose they serve, and all the models have a certain degree of relation. Wilson (1999) integrated two of Ellis models (1986; 1984) to demonstrate the relationship between the models and their capability of functioning as one. In 2004, Allen proposed another general model referred to as the Nonlinear Model. However, the author argues that individuals can only retrieve information from a natural state. Consequently, if a model that serves all is required, it must be different from Elli or Kuhlthau's models. In his view, Allen claims that the search process models do not represent the real or natural life situations. Consequently, the models cannot capture a general perspective of information needs of other disciplines as suggested by Wilson. Additionally, technological improvements have rendered some of the models obsolete. The models have failed to examine emotions in information seeking behaviour in the context of library and information management.

The aim of this research is to investigate the emotions and behaviour at the various stages in the information seeking of Master's students at Manchester Metropolitan University. Consequently, it seeks to answer the following question. How do masters student search during their dissertation? For the

sake of direction, it is pertinent to outlines objectives that will guide us as we progress. Below are our aim and objectives:

1.1   Aim and Objectives

1. To review previous research on emotions and behaviour in information seeking with a view to identifying key emotions and behaviour and their mappings to models of information seeking.

2. To identify the emotions and behaviour associated with the stages of information seeking in specific educational contexts

3. To evaluate the information seeking behaviour of master's students at Manchester Metropolitan University

4. To reflect and gather insights on the role of emotions and behaviour as a motivator in information seeking

5. To offer recommendation for further research and practice

Overall Layout and Outline

The study comprises of five part. Table 1 highlights the content and description of each of the part.

Table 1 Description of Parts

CHAPTER	CONTENTS	DESCRIPTION
Part 1	Introduction	The centrality of information behaviour and its development. Introduction

		Discussion on the IB models and the aim and objectives of the study.
Part 2	Literature Review	Previous research studies on information behaviour. A table of IB models and their contributions. Other theories and models as they relate to IB
Part 3	Methodology	The part outlines the procedures used in the completion of the study. These include the research design, data collection instrument (interviews) data analyses (thematic analyses), ethics, and limitations.
part 4	Research findings	The part includes the results acquired at the proposal level, dissertation, evaluation of sources, acquiring help, final stages, and reflection on the findings, and their summary.
Part 5	Discussion	The part includes a discussion of the findings in relation to the literature review. Additionally, the part includes the conclusions and recommendations.

.

2 Literature review

Early studies in information needs and seeking led to the growing concern about the lack of appropriate theoretical models and frameworks in information seeking behaviour. Paisley (cited in Du Preez 2008: 18) stated that the review of information needs and seeks in the 60s had a conceptual "poverty." Until the 80s, researchers continued refraining from reviewing or developing theoretical frameworks in information seeking behaviour. However, Wilson developed the first model in 1981, which instigated other researchers to develop other models of information seeking, (Wilson 1984: 198).

Despite the considerable body of research on the information behaviour of students, few studies have focussed on Masters Students, and none have studied this group during their dissertation phase, taking into account both the behavioural and affective dimensions of information seeking. The study has practical implications, especially for the institution in which it is conducted. It addresses the gap in literature on emotions and behaviour in information seeking in the field of library and information science/management. Consequently, the study unravels the motivators of emotions and behaviour among Master's Students at Manchester Metropolitan University.

It will be pertinent to highlight some of the models that inform this research in a table form and discuss them. Below is the table of models stating their features, eg. Author (date), title, stages, and participants.

Table 2. Models of information seeking behaviour

Author	Year	Title	Stages	Participants.
Elli	1989	Elli's model of information behaviour	8	
Kuhlthau	1991	Kuhlthau's Model of Information Seeking	6	32
Vakkari	2001	Task-based Information retrieval process	3	12
Foster	2004	Foster's Nonlinear Model of Information Seeking Behaviour	7	45

2.1 Elli's Model of Information Behaviour

Elli focused on the examination of the systems of information retrieval from a user's perspective. Elli (1989; 1993) and Ellis and Haugan (1997) developed a model based on eight elements of information seeking behaviour.

1. Starting: The initial stage involves acquiring an overview of the literature related to the topic or the identification of the key people in the field, Ellis and Haugan (1997: 395) and (Wilson 1997: 259; Wilson 2000: 52) The accessibility of the source is a strong predicting factor for use among many users.

2. Chaining: The stage involves making connections between different materials for the identification of new sources of information Ellis and Haugan (1997: 396) and Kalbach (2006: 3)

3. Browsing: Involves semi-structured or semi-directed search of secondary and primary sources of information Ellis and Haugan (1997: 398) and Wilson, (1999: 254)

4. Differentiating: Involves making distinction between the sources of information based on their relevance Ellis and Haugan (1997: 399), Kalbach (2006: 3) Wilson (2000: 52)

5. Monitoring: The use of formal and informal sources for the maintenance of awareness of new developments in a certain field Kalbach (2006: 3) and (Wilson 1999: 254; Wilson 2000: 52)

6. Extracting: reviewing the sources of information to locate those of interest Ellis and Haugan (1997: 399)

7. Verifying: Examination of the accuracy of the information

8. Ending: finishing the uncompleted activities and combining the information

In Elli's view, a user can navigate through the stages without any chronological order. Elli's model is considered a generalized model because it is drawn from information seeking patterns of research physicists, social scientists, engineers, research scientists, and chemists.
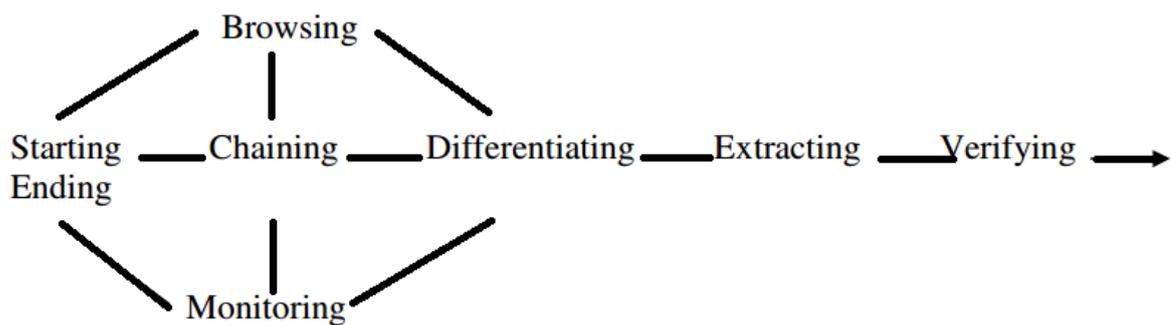

Figure 1. Diagrammatic representation of Elli's model

Elli found that related disciplines exhibited related information seeking behaviours, (Reddy 2003: 23). While Elli's model offers general insights into information seeking behaviour, it has found criticism among human and social scientists because of its generality.

2.2 Kuhlthau's Model of Information Seeking

Kuhlthau (1991) faulted Elli's model and extended it to develop another general model called Information Search Process (ISP). Kuhlthau (1991: 342) describes the Information Search Process as a "process of construction, which

involves the whole experience of a person, feelings, as well as thoughts and actions." Kuhlthau drew inspiration from Kelly's personality construct theory that highlights the affective experiences in the construction of meaning from information. The model was developed through longitudinal study with high school students. The stages included in Kuhlthau's model are associated with feelings, thoughts, and actions. The stages involved in the model are as follows, (Kuhlthau 1993: 342).

1. Initiation: An individual becomes aware of the lack of understanding or knowledge, leading to feelings of uncertainty ad apprehension

2. Selection: Identification of a general area, problem, or topic, which brings optimism and reduces uncertainty as the search for information begins

3. Exploration: An individual encounters incompatible and inconsistent information, which may increase uncertainty, doubt, and confusion

4. Formulation: An individual forms a focused perspective leading to diminished uncertainty and increased confidence

5. Collection: Information regarding the focused perspective is collected resulting in reduced uncertainty as involvement and interest increase

6. Presentation: An individual completes the search with a new understanding, which enables him or her to explain or use the learning

Table 1 summarizes Kuhlthau's model highlighting the three experiences involved (Kalbach 2006).

Table 3.Summary of Kuhlthau's ISP Model

Search Stage Goal	Feelings	Thoughts	Actions
Initiation – recognize the need for information	Apprehension Uncertainty	Vague	Search for background information
Selection – identification of the reliable sources	Optimism	General	
Exploration – In-depth investigation of the topic	Confusion Frustration Doubt	More specific but mixed thoughts	The search for relevant information
Formulation – formulation of a clear focus of research	Clarity	Narrowed clearer	

Collection – gathering the relevant information	Confidence Sense of direction	Increased interest	The search for focused information regarding the topic
Presentation – Completion of the search	Satisfaction or dissatisfaction	Clear and highly focused	

While criticizing other models, Weiler (2005: 47) lauds Kuhlthau's model because it is based on actual research rather than practical experiences. Additionally, the inclusion of cognitive issues and feelings associated with the search for information has led to its popularity as a valid model.

2.3 Vakkari's Task-based Information retrieval process

Vakkari attempted to refine Kuhlthau's model based on Information Retrieval (IR), which led to the development of a tentative theory of task-based IR process (Vakkari 2001; 2003). The study is on a longitudinal study with 12 students. Vakkari refined Kuhlthau's model in terms of tax performance and summarized the six stages into three basic categories: pre-focus (stages 1, 2, and 3), focus formulation (stage 4) and post-focus (stage 5 and 6) Huurdeman and Kamps (2014: 3). According to Huurdeman and Kamps (2014: 3), Vakkari's model accentuates seeking a focus in the search process. Consequently, the pre-focus phase involves general, vague, and fragmented thoughts Vakkari

(2003: 415). The identification of the focus gives direction to the search resulting in the search of only relevant information. The post-focus phase, the search is highly specific and could include rechecking and search for additional information. However, a subsequent test into Vakkari's theory revealed the need to include the users' experiences (Huurdeman and Kamps 2014: 3).

2.4 Foster's Nonlinear Model of Information Seeking Behaviour

Foster conducted a study with a sample of 45 academics from the University of Sheffield. The study found a pattern in the information seeking behaviour of the academics as summarized in figure 7.
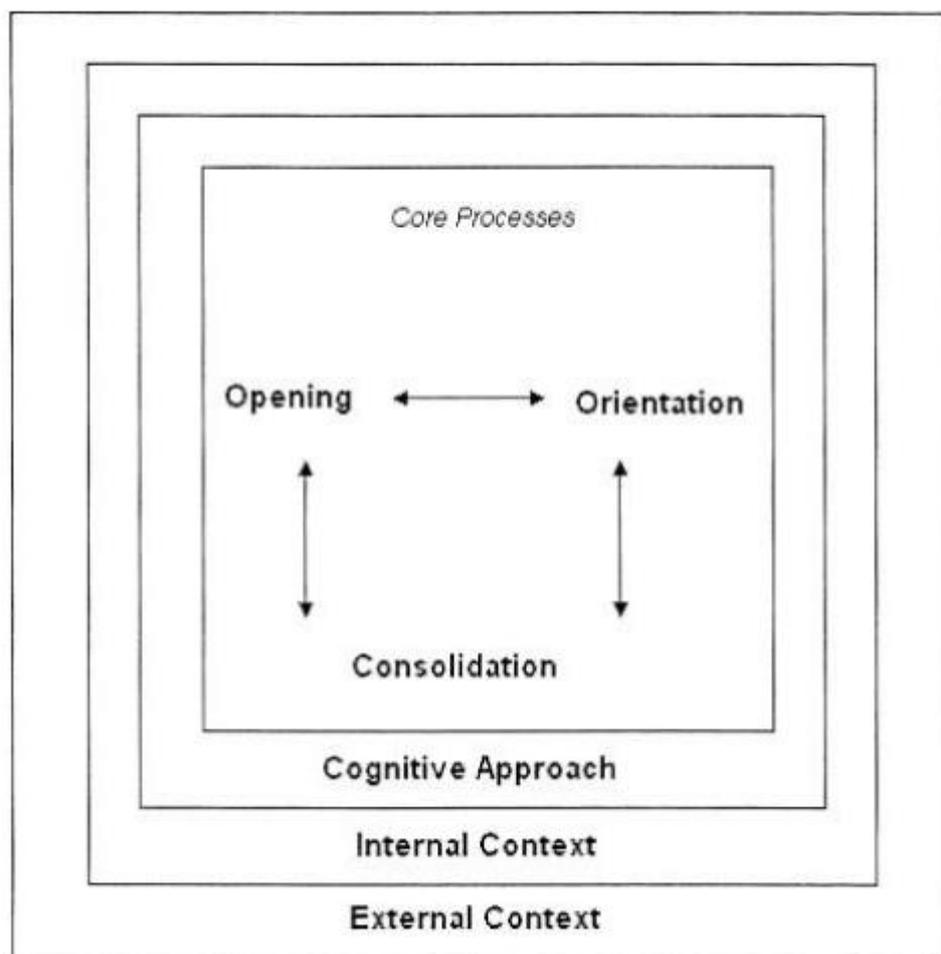
Figure 2. Foster's Non-linear information seeking model

According to the model, the opening stage includes the following activities.

1. Breadth exploration (conscious expansion of the search)

2. Eclecticism (acceptance, collection, and storage of information from diverse sources)

3. Networking (affiliated to the opening stages of the process of seeking information)

4. Keyword searching

5. Browsing

6. Monitoring

7. Citation chaining

   Orientation is associated with the identification of the direction of the search. The process includes the following activities (Foster, 2004).

1. Definition of the problem

2. Mapping out of the concepts

3. Review of the existing knowledge and access to personal collections

4. Identification of the shape of the current literature

   Consolidation involves judging and selecting the information to identify whether further search is important. The process involves the following activities.

1. Identification of the breadth of the knowledge acquired regarding the topic

2. Refining the closely related information

3. Sifting, selecting and pruning the information

4. Incorporation and assemblage of the relevant connections in the materials

5. Finishing

Opening, orientation, and consolidation occurred in three contexts. The external factors include time, project, navigation issues, and availability of sources. The internal context includes coherence, feelings, thoughts, knowledge, and understanding. According to Lindstrom (2005), Foster's model is highly favourable because of its "contextuality."

An evaluation of the models reveals that the models on information seeking portray the process as an individual rather than a collective task; the individual is the key information seeker. They models separate information seeking from the related activities that surround the search for information. The discussed models focus on individual rather than teams or groups. Consequently, the models can be referred to as single-user models. For example, Wilson (1984) suggested that the recognition of need for information perceived by the user portray his or her information seeking behaviour. Reddy (2003) rightly observe that, the models focus on individual activities because of conventional differences in the interaction between users and the source of information. Lastly, the models contributions do not cover emotions and behaviour specifically as this article seek to achieve.

3.1   Research Strategy

Yin (2003) and Saunders et al. (2011) classify the research strategies usable in research into experiments, archival analysis, survey research, case studies, and historical analysis. The selection of the research strategy depends on the controllability of variables, the contemporariness of the topic, and the study questions (Baxter and Jack, 2008). This study relies on a case study strategy because it aims at understanding the emotional and behavioural reaction of Masters Students in the information seeking process. Case studies help researchers in acquiring in-depth information about an issue or event (Saunders et al. 2011: 123). A case study involves an experiential evaluation of a contemporary phenomenon within its natural context (Noor, 2008). The strategy helps in acquiring information related to "how" and "what" questions. The current study assesses "how" Master's students react to information search, which makes the case study strategy suitable. Case studies can be single/multiple and embedded/holistic (Saunders et al. 2011: 146). While a single case study investigates one case, a multiple case study investigates several related cases. Conversely, a holistic case study focuses on a case using one unit of analysis while an embedded case study uses several units of analysis (Baxter and Jack, 2008). The current study relies on a single holistic case study in which Master's students at the Manchester Metropolitan University are the case and their emotions and behaviour response to search. A case study strategy facilitates the combination of several methods of collecting information in a process called data triangulation (Saunders et al. 2011: 145). Denscombe (2010) maintains that the use of more than one

research method suits the case study approach. Therefore, the case study approach will rely on interviews, as it will be discussed later. The study will examine emotions and behaviour within the educational context. According to Wilson (2000), past research has identified the emotions linked to the stages of information seeking within the educational context. The ISP of master's dissertation students is of importance because it can help explain the differences that may exist between Master's students from different departments, and different educational background (Home/International students) in their search process or search strategy

3.2 Research Design

Saunders et al. (2011: 139) categorizes research designs into descriptive, exploratory, and explanatory designs depending on their purposes. Exploratory studies bring new insights into a phenomenon through the search for information from a different perspective. Exploratory studies require in-depth literature reviews and interviews with experts and focus groups. Descriptive studies present a profile of a person, phenomenon, event, or situation. Explanatory studies seek to identify the causal relationship between variables. The current study seeks an in-depth understanding of the emotions and behaviour associated with information seeking among Master's students. Essentially, this does not intend to identify relationships between variables. Rather, it seeks to understand the emotional responsible to the search for information. Consequently, the study follows a descriptor-explanatory design that involves the description of the phenomenon through a review of literature

and explanations of such occurrence through primary data collected via interviews with participants.

3.3 Research Approach

Saunders et al. (2011) classify research approaches into quantitative, qualitative, and mixed methods. A qualitative approach involves the collection of information related to the attitudes, beliefs, and opinions of the respondents. Essentially, the data collected through qualitative approaches involves subjective impressions that occur during the coding of verbal evidence. On the other hand, quantitative approaches involve the acquisition of numerical information and transformation of the data into statistical and understandable forms such as percentages, graphs, and tables among other forms (Creswell, 2013). In some cases, the case study strategy and qualitative approach are use synonymously. A qualitative approach suits the case study strategy because it facilitates the acquisition of in-depth information that helps in understanding the views of the participants (Maxwell, 2012). Therefore, the study used a qualitative approach to facilitate the acquisition of such in-depth information.

3.4 Data Collection and Sampling

Yin (2003) outlined six methods through which researchers could acquire evidence: archives, interviews, documentation, physical artefacts, direct observation, and participant observation. As stated earlier, a case study offers flexibility in that a researcher can combine different sources of evidence through data triangulation (Yin, 2003: 86). Consequently, the study relied on interviews for data collection.

3.5 Interviews

As stated earlier, case studies may involve the combination of different sources of evidence. Interviews suit the case study strategy because they help in the acquisition of in-depth information from the respondents. An interview schedule involving semi-structured questions was prepared and compiled (Appendix 1). The Interviews question are open-ended questions. The researcher sought permission from the participants within Manchester Metropolitan University prior to the conduction of the interviews. The researcher conducted face-to-face interviews for individual. Denscombe (2010) observed, "When the researcher needs to gain insights into things such as people's opinions, feelings, emotions, and experience, the interviews will almost certainly provide a more suitable method." Pickard (2007) maintained that, "interviews are usually used when we are seeking qualitative, descriptive, in-depth data that is specific to individual…."

A sample of thirteen (13) participants from Master's students at Manchester Metropolitan University was acquired through convenience sampling. According to Castillo (2009), convenience sampling involves the selection of people who are easy to reach. The table below captures the demographic information of the participants.

Table 4. Demography of participants.

Participant Number	Department	Gender	Age	Home/International Student
P1	Sociology	Female	27	International
P2	Nursing	Male	29	Home
P3	History, Politics, and Philosophy	Male	24	International
P4	Nursing	Female	26	Home
P5	Languages, Linguistics, and TESOL	Male	25	International
P6	History, politics, and Philosophy	Female	25	Home
P8	English	Male	27	Home
P9	Marketing	Female	25	Home
P10	Engineering	Female	28	International
P11	Business Technology and Analytics	Female	25	Home

P12	Accounting	Male	27	International
P13	Business Technology and Analytics	Male	30	International

The reliance on Mater's students for the interviews was because of their search experience during their dissertation, and they are easy to acquire information from because of the availability. The reliance on this group for the study had several strengths and weaknesses. Firstly, the group has conducted first-hand research meaning that they understand the process of information seeking. Secondly, the group was easily accessible making the acquisition of data easy. However, the group could have given biased information based on the information they know about the information seeking process. Each face-to-face interview lasted at least 35 minutes. The oral interviews required the respondents to recount and share their experiences. The interviews recordings was with an audio recorder, while during the interviews, field notes were also collected. The purpose was to gather insights into how Master's students react to the search process. The interviews served as the best opportunity of listening to the emotional experiences of the users, which could assist librarians in offering an appropriate search environment and help to the users.

3.6 Data Analyses

The study collected qualitative data, which called for a qualitative method of data analysis. They recorded interviews were transcribed and coded, after each day of interviews. The transcribed information was analysed each day to avoid piling up of the data. The analysis involved the reduction of the size of the information into categories and themes. The analysis of the findings followed a thematic approach. The approach involved coding the information and the identification of relevant themes related to the research question. According to Denscombe (2010), the collection and interpretation of data in qualitative studies occurs iteratively. Pickard (2010) posits that, "in qualitative research the gathering and analysis of data occurs concurrently." Consequently, the data from each interview day was analysed individually according to the themes.

3.7 Reliability and validity

The study used a qualitative approach involving semi-structured interviews, which exposed it to some issues of reliability and validity of data. Golafshani (2003: 601) describes reliability in terms of the trustworthiness of the instrument used in the collection of data. Greener (2008: 37) defines reliability as the element of consistence or repeatability of the findings using the same methods a researcher describes. Bias and errors in the collection of data expose qualitative data to reliability issues. However, the interview schedule ensured that the researcher stuck to the designed questions to avoid deviating from the context of the study. According to Aken, Berends and Bij (2012), data triangulation remedies the inadequacies of the instruments used in the

collection of data. Consequently, the triangulation of data through documentation and interviews helped in the maintenance of validity in the study. According to Greener (2008), validity involves the extent to which an instrument for data collection measures the constructs it was intended to measure. The interview guide or schedule ensured the validity of the information because it offered a guideline about the constructs that the researcher intended to measure. The justification of the methods used in the collection of data helped in the maintenance of internal validity of the qualitative data. A two-layer validity check ensured that the study provided valid data. First, the study used multiple conceptual and theoretical lenses in the examination of the parameters associated with information seeking behaviour through an in-depth review of the literature. Secondly, convenience sampling ensured the selection of the appropriate sample for the study while the combination of data collection techniques ensured that each method mitigated the inadequacies of the other.

4.1 Research Finding-Search during Proposal Stage

The first question prompted interviewees to explain their approach to deciding and clarifying their dissertation topic. Most respondents indicated that they lacked a clear understanding of the topic prior to searching. Among all the participants, the starting points for their projects were the supervisors, coursework, and identification of literature "gaps." However, some respondents traced their identification and clarification of their dissertation topic to their undergraduate-level presentations and coursework. A lesser number identified independent reading as the starting point for the clarification of their dissertation topic. One respondent (P13) highlighted the search for literature gaps as the

sole starting point for the start of a search process. While describing himself as a comparative thinker and researcher, P7 indicated that "I try to shape ideas…taking information…placing it in a new context and creating a new and original idea."

At the proposal stage, most of the respondents (10) indicated that they stopped after acquiring adequate information showing a gap in the literature. However, P12 indicated that he would stop searching when no meaningful acquired information is in place. While highlighting the variety and range of sources of information at the proposal stage, the respondents emphasized in the use of videos on YouTube. The respondent highlighted secondary sources as an essential tool for the validation of hypotheses and theories. The secondary sources highlighted included special collections and archives. Additionally, respondents identified videos, journals, original manuscripts, and books as the secondary sources of information during the proposal stage. However, the selection of the sources to include related more to the relevance of the information contained rather than to the currency of information. However, several (5) respondents indicated that they compared the old sources to newer sources to identify the similarities, dissimilarities, or modifications.

Several (4) participants recounted their recurrent problem in tracking particular sources. The commonest complaint among the respondent was the inadequacy of secondary sources from electronic platforms. Other respondents reported the lack of confidence in using electronic platforms in the search for secondary sources, because of the generation gap. The drawback identified with the online

searches was the credibility, relevance, and time used in the search for the information. However, all the respondents felt uncertain about the information they acquired for the proposal stage. The comments above indicate that this group expresses not much of emotions; however, they tend to be uncertain at this stage because of lack of knowledge. Consequently, their Information seeking behaviour begin to manifest even at the early stage of their research proposal. This also indicate information seeking behaviour was dominant than emotions at this stage.

4.2 Search during Dissertation

The second question prompted the respondents to recount their experience while starting the search for their dissertation. The respondents indicated unanimously that they had to restructure their proposals to fit their supervisors' requirements. The search terms used at the start of the search for the proposal differed from one respondent to another. Nearly three-quarters of the respondents (11) used open-ended searches while searching library catalogue and the Internet. The respondents described the Internet as an appropriate place for the acquisition of ideas. After the initial search, all (13) of the respondents discussed the topic with their supervisors. Meetings with supervisors were stated as a crucial step in the start of the dissertation since the supervisors offered recommendations, answered questions, and provided resources that the students would need. The supervisors helped in building the foundation for the subsequent work. The respondents indicated unanimously that they felt anxious but optimistic while selecting the topic and before discussing the topic with the supervisor. However, the discussion with the

supervisors and the insights offered increased their optimism and all of the respondents stated contentment with their selection. While the information acquired was general in nature, the respondents indicated that they felt certain about their search process.

The third question prompted the interviewees about their search strategy. Most of the respondents described their information retrieval strategy as an idiosyncratic process that involved incessant "digging", browsing, searching, and following leads. Twelve of the respondents indicated citation chasing (chaining) or books-leading-to-books as their frequent search strategy. According to P4, citation chasing acted as an informal search engine for students. Some participants also highlighted their scholarly experience in citation chasing. A few participants indicated browsing through shelves as the start of their search process. Further, P11 stated that titles may be misleading, which required reading the books and articles. P4 indicated the need of being instinctual in the search process.

Other than searching from books and articles, the participants indicated that they sought information from conferences, databases, bibliographies, and interpersonal contacts. The university library served as a crucial source of videotapes, DVDs, and interlibrary loan services. However, the responses indicated a diminishing reliance on physical library services and an increased use of online sources of information. The initial search for most of the respondents did not yield much of the required information. The use of open-ended searches and citation chaining helped in creating a foundation for an

advanced search. For most (12) of the respondents, narrowing the search using keywords acquired online was the way of redefining the search. Therefore, the respondents indicated cross-referencing as a strategy of redefining the search process. At the start of the search stage, most respondents indicated that they had general thoughts about their sources but remained optimistic. After an in-depth search for appropriate sources, most respondents (10) felt contented with their work and remained optimistic that they would gain deeper insights into their topics.

The fourth question prompted the respondents about their decisions on the sources they used. The respondents showed consensus regarding the use of print and electronic journals, online journals, and periodicals acquired from the university library. A key finding was that the students relied on the physical library in accessing printed books and old reports, papers, and articles. The respondents indicated unanimously that the search for information at the start was challenging. The respondents had doubts about the information they acquired, which led to frustration and confusion. Although the search was becoming more specific, most respondents indicated that they had mixed thoughts. The relevance and currency of the information contained in the sources were the main determinants of trustworthiness of the sources. Most (9) respondents determined the relevance of a source depending on the other authors who had cited it. The same factors determined the perceptions towards the appropriateness of the sources. However, most (12) of the interviewees stated that they did not read the full sources before selecting them. Constraints such as time and convenience of the resource led to a quick skimming of the

papers. Consequently, most students read the abstract and conclusion of the articles or focused on specific chapters within a book before selecting the source. At this stage, most respondents indicated that they felt more specific about their search process despite harbouring mixed thoughts on the information acquired.

The fifth question prompted the informants to highlight whether the search for information was stressful or not. On this note, the respondents indicated that they had a search strategy that reduced the stress associated with the search process. According to respondent (5), the uncertainty during the start of the search process meant that he had to devise a way of focusing on topic-related information. The anxiety and uncertainty of the information acquired during the initial search made the search process confusing to most of the respondents. Interestingly, most of the respondents used an iterative search for information, which did not involve a rigid search from the start to the end. Unanimously, the respondents stated their frustration during the initial search for information. Additionally, the respondents alluded to mixed thoughts, doubts and confusion when they felt that "they were not there" yet. The frustration was associated with the mixed thoughts during the in-depth exploration of the research topic.

4.3 Seeking for Help

Question 6 questioned the respondents about their search for help from other people. Although all respondents agreed that single authorship in dissertation is the norm, they conceded that they always sought help from different individuals throughout the conduction of their projects. Nearly all the

respondents (11) stated that their academic staff (professors, advisors, and committee members) had a crucial influence in their search for information and building confidence in the search process. The staff provided appropriate guidance and recommendations to offer appropriate directions for the research. Of all the people, the respondents indicated that their supervisors were the most consulted group. According to respondent (3) the dissertation supervisor was the first person to consult because of his experience in the area. Some other respondents indicated that they sought help from librarians at some time during their search for information.

Several themes emerged regarding the reasons behind the search for help. Some respondents indicated that they sought encouragement from their supervisors. Other respondents sought specialised help from experts outside the institution to acquire additional insights. In the course of the projects, most respondents (10) highlighted that they sought help to acquire on-going support and directions for their research. The respondents indicated that their sources of help were equally useful. The help sought helped in the formulation of a focus for the dissertation. Most (8) used face-to-face consultation in their search for help. However, the respondents also complemented face-to-face consultations with emails and phone consultations. Several respondents indicated the importance of conferences as the place from where they sought help for their projects. One respondent stated that conferences facilitated discussions with post-graduate students and experts. The search for help was higher during the formulation of focus for the project. According to most (12) respondents, they felt confused when they realised that they needed help. However, most

respondent gained clarity about the topic since they acquired a focus of their search. The responses at this stage indicate that, majority of those who seek for help were international students. Moreover, very few of the home students seek help from others apart from their supervisor.

4.4 Search at Final Stage

The last question prompted the respondents to explain whether they undertook further search after the conduction of empirical research just before the submission of the work. Most of the respondents indicated that they conducted limited search for additional information. However, the respondents concurred that they had to search through their sources for updates. The conduction of further literature focused on updating the theories and concepts associated with the topic of their discussion. According to most of the respondents, the search before the submission of the paper ensured that the empirical research related to the literature review conducted.

At the end of this stage, the respondents stated an increment in confidence and sense of direction. The confidence related the acquisition of focused information about the topic through a review of the literature and empirical research. Essentially, almost all (11) respondents associated the increased confidence to the focus they acquired from the updating of the literature.

4.5 Reflection

The eighth question prompted the respondents to reflect on their entire dissertation process. Most respondents associated the end of the dissertation with satisfaction, confidence, and certainty. The presentation of the information

gathered led to clarity and highly focused information that related to the topic of interest. The end of the dissertation was associated with an increase in confidence among the respondents. P4 stated. Nonetheless, three respondents indicated that they still felt dissatisfied with the information. However, most of the respondents did not regard themselves as expert searchers but considered that the experience gained made them better. The respondents indicated that they felt different and "wiser" about their capability in searching for information from different sources. This stage was design for those who also failed to show emotions as the recount their search experiences. The aim of this stage was to discuss their feelings from the beginning to the end of the dissertation. it captures the feelings at each stage and the summative feelings of the entire process.

5.1 Findings

The findings of the study confirm that the information seeking behaviour among Master's students is organized, and in some cases, random. The randomness of the searching behaviour occurs during the planning stage. Essentially, the finding confirm that many students follow Kuhlthau's model in which at the planning stage the search lacks a clear focus. At this stage, the students develop a search strategy and engage in general browsing and foraging for general ideas or background information concerning their field of research. The initial stages involve contact with supervisors and peers from where they acquire some form of guidance regarding the search direction. Additionally, at this stage the students refer to their coursework and different literature from

where they can identify the literature gap. The information and the research at the undergraduate level also guide the initial stages of information seeking. The organised information seeking behaviour of the students includes regular planning as guided by the supervisors.

The findings confirm earlier observations regarding the emotional response to the search process during the initial stages. As indicated by several respondents, the initial stages of searching are complicated because of the uncertainty about the topic and the vagueness of thoughts. At this stage, the respondents confirm their need for information, which occurs through the identification of the research gap and the search for background information. Apprehension at this stage emanates from the confusion regarding the lack of focus on the search of information.

Fundamentally, the participants confirm the reliance on secondary sources of information at the proposal stage. The results show that the participants rely on secondary sources of information while others search for information from external sources. However, the respondents also indicate a trend in which some of them rely on personal collections as a feature of their information seeking behaviour. Although some of the participants indicated that they had prior knowledge regarding their research topics, it was evident that most of the respondents begun with insubstantial experience in their search area. It is also worth observing that the reliance on secondary sources also involved the comparison of old and new resources to identify their similarities, dissimilarities, and modifications. Additionally, the search process involves generic engines

such as Google without deep foraging. Although previous studies have not indicated the trend among postgraduate students, the use of generic search engines is a common feature of the search process among undergraduate students. Similar to previous studies, the first stage in the search process involved some level of anxiety. As indicated by several respondents, the doubts and uncertainty portrayed during the initial stage led to anxiety about the direction to which the search would take.

The information seeking behaviour of the respondents changed during the second stage of searching for the dissertation. Fundamentally, the search for the dissertation should be a highly focused stage. Consequently, it involves extensive restructuring of underdeveloped concepts gathered during the proposal stage. The respondents confirmed the observation by indicating that they had to restructure their proposals to meet the requirements of their supervisors. However, the search for information had not taken a focused approach yet. As observed, the search process involved open-ended searches from the Internet and library catalogue. Unanimously, the respondents considered the Internet as one of the most appropriate sources of information.

Arguably, the responses indicate a feature found in previous studies regarding the search for information at the initial stages of searching. The responses show an idiosyncratic search process involving digging, browsing, searching, and following leads (citation chaining). The responses indicate the haphazard methods used in the search for information at the start of the process. However, despite the uncertainty at the start of the dissertation, the responses indicate a

high level of optimism with their work. Nonetheless, the search for information during the dissertation process is an iterative process, which becomes refined and focused with time. The scholarly experience in citation chaining indicates a trend or behaviour in the search for information among the respondents. Citation chaining facilitates focusing of the search process to specified areas of interest. Fundamentally, the search process at this stage is general in which the respondents rely on a plethora of resources including videotapes, DVDs, and interlibrary loan services. Nonetheless, the emergence and popularity of the Internet has led to a diminishing reliance on physical libraries.

Apparently, despite the optimism expressed during the selection of the sources, the responses confirm the presence of confusion, frustration, and doubts during the exploration of the potential sources. Essentially, the initial stages of information seeking involve gaps that require bridges to fill. However, the selection of the appropriate bridges led to doubts because of mixed thoughts and lack of specific focus in the search of information. However, the search for information and the consequent use of that information related to the needs portrayed by the gaps. Consequently, the respondents entered into deeper search to satisfy the needs.

The search process takes direction as the user develops a focus for the study. According to the responses, the formulation of a focused perspective diminishes the uncertainty portrayed at the initial stages. Consequently, the users have increased confidence because of the clarity of the information they require. At this stage, there was an increase in the search for information from

supervisors, tutors, and peers. The findings also noted that international students sort for help more apart from their supervisors. Essentially, the responses indicate that the reliance on the "people phase" was crucial in shaping confidence and the direction of the search. While the respondents relied on databases and libraries for the search of information, they required continued support and cross-reference with their peers to shape their dissertations. The help acquired from the experts and peers helped in the collection of the relevant information related to their topics. Essentially this can be regarded as the most crucial stage because it will determine the confidence an individual gains with the search process. Increased interest, confidence, and sense of direction with the information seeking determine the level of satisfaction or dissatisfaction. After completing the search, respondents indicated satisfaction with their search process. The presentation of information depends on the level of satisfaction or dissatisfaction with the initial search. The search could begin again in case the user feels dissatisfied with the information. However, the responses indicate that the review of the collected information was the only crucial step that most respondents undertook after the collection of empirical information. However, some of the responses indicate the need for an iterative procedure in the collection of information to avoid a complete repeat of the collection process. Fundamentally, the satisfied respondents indicate that developing a search strategy increase the confidence in information seeking as the search continues. Fundamentally, the adoption of a flexible but organised search strategy increases the ease in the search for information.

The dissertation focused on evaluating the emotional responses among master's students during the information seeking process. The literature review discussed several models associated with emotions and information seeking behaviour among students and experts. Kuhlthau's model has been among the most widely used model in understanding emotions during the information seeking process. Some of the responses confirm Elli's Model of Information Seeking. According to the model, the search process does not follow a chronological order. Some of the respondents followed an iterative process during the search for information. Essentially, Elli's model shows that researchers will begin the search process through browsing, chaining, and monitoring from where they engage in the differentiation of the sources. As indicated in the responses, the initial stages of the search process involved citation chaining from where the users acquired the relevant sources. While the responses relate to Elli's model in terms of the iterative searching of information, they also portray a close relationship with Kuhlthau's model of information seeking.

Kuhlthau's model shows a chronological process of information seeking starting from the initiation process to the presentation process. Although the responses indicate a form of iterative search of information, the guided interviews indicate commonness in terms of the emotions, feelings, and thoughts expressed at the stages of information seeking. Kuhlthau associates the start of the search process with uncertainty and apprehension, as well as vague thoughts regarding the research topic. The respondents confirmed the notion in that most indicated that they did not have a clear direction in their search process. The

initial stage of the search process involved the search for background information to guide further research.

The search for information among the respondents and professionals has a unique relationship as portrayed by the responses and the review of the literature. According to Leckie et al. (1996), tasks associated with the master's degree will result in information needs, which instigate the search for information. Essentially, the intervening factors discussed by Leckie et al. (1996) such as the awareness of information shape the search process. The reading of abstracts created an awareness of the information among the respondents, which shaped the direction of their search. Fundamentally, the accessibility of information played a crucial role in determining the direction of the search process and the selection of the resources. Concurrent with Sandstrom's (1999) model, some of the respondents relied partially on their personal collections in searching for information.

The responses also show a relationship with Vakkari's Task-based IR process. According to the model, the search process involves three stages: pre-focus, focus, and post-focus stage. At the pre-focus stage, the respondents showed the emotions associated with Kuhlthau's model of information seeking process. The pre-focus stage involved uncertainty and apprehension as observed earlier. The realization of the information gap led to an accelerated search for information. The focused search for information increases interest as the individual gains an understanding of the research topic.

Dervin (2005) characterized the process of searching information as a process involving situations, outcomes, gaps, and bridges. The situation (dissertation) instigates the search for information, which is demonstrated by the gap in information. Consequently, the users have to bridge the gap through a focused search for information. However, the emotions arising from the stages involved in the search for information act as barriers towards the achievement of the outcome. According to Dervin (2005), barriers could be affective. Affective barriers observed in the responses include uncertainty, confusion, and frustration. However, a focused search that involves interpersonal connection with other individuals shows the problem-solving abilities of the users. The satisfaction of the user relates to how well the user solves the problems (mitigates the barriers) to achieve the outcome.

The research question guiding the study was "How do Masters Students react to search?" Simply, the interview with thirteen Master's students shows that the commonest emotions involved in the search process include apprehension, uncertainty, optimism, confusion, frustration, doubt, clarity, confidence, satisfaction, and dissatisfaction. Following various models discussed in part 2, the responses indicated the points at which the models overlap. Essentially, the comparison of the responses with the models shows that the transition from the first stage of information searching involves uncertainty because the user does not have a concrete idea regarding the information gap that requires filling. The literature and the responses indicate a significant reliance on secondary sources and informal search at the start of the process. The reliance on informal search relates to the modes of information seeking discussed by Choo et al.

(1998). Choo et al. (1998) highlighted the modes as informal search, informal search, undirected viewing, and conditioned viewing. Following the modes, it is evident that the start of the process involves informal and undirected searches. Concurrent with this view, undirected searches involving open-ended search helped in the identification of issues from where the users could generate new information needs. Essentially, at this point the search was not focused, which led to the level of uncertainty.

The emotions shape the actions that an individual takes. The initial stage involves emotions that render the need for the search of background information, which transitions to the search for relevant information. The actions involved in the initial stages relate to three of the aspects of information search discussed by Cheuk Wai-Yi (1998). At this stage, the emotions direct the user to initiate the task (information seeking), formulate the focus (seek relevant information) and assume the ideas (explore the topic and sources). Through the actions, the user is poised to emerge from a point of uncertainty to a point at which he or she acquires clarity of the topic and the information required.

Notably, the responses show a significant reliance on other people at the fourth stage (Kuhlthau's model). The reliance on other people for cross-referencing and direction relates to what Cheuk Wai-Yi (1998) refers to as confirmation and rejection of ideas. According to Cheuk Wai-Yi (1998), users tend to seek information from each other but revert to authoritative sources as they confirm and reject ideas. At this point, the users seek confirmation and rejection of ideas

to mitigate their confusion, frustration, and doubts regarding the information they acquired during the initial stages.

The emotions highlighted show that users (master's students) are comfortable with a detective-like process to information seeking that involves browsing, citation chaining, and extensive reading and consultation. Anxiety arises when they do not acquire the information they require. However, the help acquired from other people helps in shaping the direction of the search, which increases confidence and continuation with the search process. However, the initiation of the search process is haphazard and serendipitous, but gains a focus as the user acquires clarity of the topic.

However, it would be fallacious to consider Master's students at Manchester Metropolitan University as a unique user group relative to the emotions. Essentially, the information acquired through the interviews shows that the Master's students use the same stages that other users may use. Although emotions may affect different categories of students differently, they affect the information seeking behaviour of Master's students too. The escalation of the need for focused information leads to deeper searching, which may culminate in satisfaction or dissatisfaction. Unlike studies conducted on undergraduate students, the Master's students require focused and accurate information to meet the requirements of their supervisors. Consequently, they may use an iterative search process or repeat the process after they feel dissatisfied with what they acquire initially. Essentially, Kuhlthau's model explicates the emotional behaviour of Master's students best. The emotional response to the

search process may differ from one user to another. However, the themes discussed show a confluence in the process and emotions involved.

5.2 Discussion

The study focused on the emotions and behaviour associated with the information seeking among Master's students at the Manchester Metropolitan University. To this end, the study aimed at fulfilling five objectives related to the study question. The first objective required a review of the previous research regarding information seeking behaviour and the identification of the main emotions involved. Several models of emotions and information seeking behaviour were discussed in part 2. Essentially, the models concur on the need for a focused conclusion before the presentation of the information. Further, the models show that the users require searching for information from an assortment of sources including other people. Notably, the reliance on diverse sources and other people helps in the confirmation and rejection of ideas. Following Vakkari's model, the reliance on diverse sources relates to the development of a focus for the search process.

Based on different models, the review of the literature showed that users would express apprehension, uncertainty, and optimism, confusion, frustration, and doubt in the first three stages involved in the search for information. After the formulation of focus, the users gain clarity of the topic and the information needs. The confirmation and rejection of ideas increases the confidence of the users, which increases their interest in proceeding with the completion of the task. Notably, the information acquired from the interviews shows that Master's

students follow an iterative process of searching to avoid repeating the whole process after the completion of the empirical search of information. Consequently, this raises their chances of satisfaction with their work.

However, it is difficult to get Master's students to talk about emotions at each stage of search. Instead, they tend to revert to describing behaviour more. They acknowledged the challenges associated with information seeking, which could be fear or excitement. This could be positive or negative emotions, and these emotions can either increase or decrease confidence in the search process depending on the stage in the search process.

Fundamentally, the interviews indicate that emotions shape the information seeking behaviour of Master's students to a significant extent. For example, the lack of clarity that leads to uncertainty instigate deeper search for focused information. Further, the development of focus increases optimism and clarity, which raises the confidence and interest of the user in the topic. Seeking help from other people, which is associated with frustration and confusion, leads to rejection and confirmation of the information acquired earlier. Consequently, the users can proceed with their search. Summarily, the study shows that emotions determine the direction that a user takes in searching for information, as well as the sources of information selected. However, it is worth observing that the process does not necessarily have to be rigid.

Overall, should the university reduce the level of emotion by designing systems that minimise emotional responses? Wilson (1997) argued that when you reduce emotions such as anxiety and apprehension, it affect an individual's

desire to seek knowledge. According to him, anxiety and apprehension proper information seeking, and therefore, can be seen in a more positive light. Base on Wilson claim, the researcher recommend that, the university should design a system to maximise positive emotions and minimise negative emotions.

5.3 Recommendations

The study has offered crucial insights regarding the role of emotions in the information seeking behaviour of Master's students at the Manchester Metropolitan University. The reliance on different sources of information shows that libraries should have the crucial information that students require. Additionally, the supervisors and tutors should offer constant support to the students as they develop a focus of their study. Further research to be carried out among academics from different department.

References

Abdoulay K (2002) Information seeking behaviour of African students in Malaysia: a research study Information Development, 18(3) pp. 191-195.

Aken J E, Berends H and Bij H (2012) Problem Solving in Organizations: A Methodological Handbook for Business and Management Students. New York: Cambridge University Press

Arapakis I, Jose J M and Gray P D (2008) Affective feedback: An investigation into the role of emotions in the information seeking process.' In SIGIR '08: Proceedings of the 31st annual international ACM SIGIR conference on research and development in information retrieval (pp. 395–402). New York, NY: ACM.

Arapakis I Konstas I and Jose J M (2009) Using facial expressions and peripheral physiological signals as implicit indicators of topical relevance.' In Proceedings of the seventeen ACM international conference on multimedia (pp. 461–470). USA: Springer.

Barrett L F, and Russell J A (1999) The structure of current affect: Controversies and emerging consensus.' Current Directions in Psychological Science, 8(1) pp. 10–14.

Baxter P, and Jack S (2008) Qualitative case study methodology: Study design and implementation for novice researchers. The qualitative report, 13(4), 544-559.

Blom, A (1983) The task performance of the scientist and how it affects an information service.' Mousaion 3(1) pp. 3-26.

Butler D L, and Cartier S C (2005) Multiple complementary methods for understanding self-regulated learning as situated in context.' Presented at the

Annual Meeting of the American Educational Research Association. Montreal, QC, April 2005.

Byron S M, and Young J I (2000) Information seeking in a virtual learning environment.' Research Strategies, 17 pp. 257–267.

Bystrom K, and Jarvelin K. (1995) Task complexity affects information seeking and use.' Information Processing & Management 31(2) pp. 191-213.

Callinan, J E (2005) Information-seeking behaviour of undergraduate biology students: A comparative analysis of first year and final year students in University College Dublin.' Library Review, 54(2) pp. 86-99.

Castillo J J (2009). Convenience sampling. Retrieved on October 2, 2013.

Chan C H, and Jones G J F (2005) Affect-based indexing and retrieval of films.' In Proceedings of the 13th annual ACM international conference on multimedia (pp. 427–430). New York, NY, USA: ACM.

Cheuk Wai-Yi, B (1998) An information seeking and using process model in the workplace: a constructivist approach.' Asian Libraries, 7(12) pp. 375-390.

Cheuk Wai-Yi, B. (1999) The derivation of a "situational" information seeking and use process model in the workplace: employing sense making. Available: http://communication.sbs.ohiostate.edu/sensemaking/meet/1999/meet99cheuk.html (Accessed 25 August 2015)

Choo C, Detlor B and Turnbull D (2000) Web work: information seeking and knowledge work on the World Wide Web. Dordrecht: Kluwer Academic.

Choo C, Detlor B and Turnbull D (1998). A behavioural model of information seeking on the Web: preliminary results of a study of how managers and IT specialists use the Web: 1998 ASIS Annual Meeting Contributed Paper. Available: http://fis.utoronto.ca/fis/respub/asis98/. (Accessed 25 August 2015).

Creswell J W (2013) Research design: Qualitative, quantitative, and mixed methods approaches. Sage publications.

Dalglish C L, and Chan A O (2005) Expectations and reality–international student reflections on studying in Australia.' Australian International Education Conference.

Darwin C, (2005) The expression of the emotions in man and animals. Kessinger Publishing.

Denscombe, M (2010) The Good research Guide: for small-scale social research project. 4th ed. Berkshire, England: McGraw-Hill House, pp.52; 272; 173.

Dervin B (1983) An overview of sense-making research: Concepts, methods, and results to date. The Author.

Dervin, B (1992) From the Mind's Eye of the User: The Sense-Making Qualitative Quantitative Methodology' in Glazer, J.D. and Powell, R.R. (eds.) Qualitative   Research in Information Management. Englewood, CO: Libraries Unlimited, Inc.

Dervin, B (2005) What methodology does to theory: sense-making methodology as exemplar' in KE Fisher, S Erdelez and L McKechnie (eds) Theories of information behaviour. Medford: Information Today, pp. 25-29.

Deumert A, Marginson S Nyland C Ramia G and Sawir E (2005) The social and economic security of international students in Australia: Study of 202 student cases (Summary report).' Melbourne: Monash University.

Devi S T, and Dlamini N N (2013) Information needs and seeking behaviour of Agricultural students at the University of Swaziland: A case study.' International Journal of Digital Library Services, 4(2) pp.1-15.

Diamond A, Roberts J Vorley T Birkin G Evans J Sheen J and Nathwani T (2014) 'UK Review of the provision of information about higher education: advisory study and literature review: report to the UK higher education funding bodies by CFE Research.' Available from http://cfe.org.uk/downloads/Student_choice_2014.pdf

Dinet J, Chevalier A and Tricot A (2012) 'Information search activity: An overview.' Revue Européenne de Psychologie Appliquée/European Review of Applied Psychology, 62(2) pp. 49-62.

Du Preez, M (2008) Information needs and information-seeking behaviour of consulting engineers: a qualitative investigation. Masters. University of South Africa.

Ellis D (1989). 'A behavioural approach to information retrieval system design.' Journal of documentation, 45(3) pp. 171-212.

Ellis D and Haugan M (1997) Modelling the information seeking patterns of engineers and research scientists in an industrial environment'. Journal of documentation, 53(4) pp. 384-403.

Fidzani B T, (1998)   Information needs and information-seeking behaviour of graduate students at the University of Botswana. Library Review, 47(7) pp. 329-340.

Foster A (2004) A nonlinear model of information-seeking behaviour.' Journal of the American society for information science and technology, 55(3) pp. 228-237.

Frijda N H, (1994) Varieties of affect: Emotions and episodes, moods, and sentiments. The nature of emotion. New York: Oxford University Press (pp. 59–67)

Golafshani N (2003) Understanding reliability and validity in qualitative research.' The Qualitative Report, 8(4) pp.597-607

Greener S, (2008) Business research methods. BookBoon.

Guest G Macqueen K M and Namey E E (2011) Applied thematic analysis. Sage.

Hanjalic A and Xu L Q (2005) Affective video content representation and modeling.' Multimedia, IEEE Transactions on, 7(1) pp. 143–154.

Heinstrom J (2005) Fast surfing, broad scanning and deep diving: The influence of personality and study approach on students' information-seeking behaviour.' Journal of documentation, 61(2) pp. 228-247.

Hughes H (2005) Actions and reactions: Exploring international students' use of online information resources.' Australian Academic & Research Libraries, 36(4) pp.169-179.

Huurdeman H C, and Kamps J (2014) From multistage information-seeking models to multistage search systems." In Proceedings of the 5th Information Interaction in Context Symposium. Association of Computing Machinery (pp. 145-154).

Ingwersen P, and Jarvelin K (2005) The turn: integration of information seeking and retrieval in context. Dordrecht: Springer.

Jacoby J A, (2005) Optimal foraging, in Theories of information behaviour, edited by KE. Fisher, S Erdelez and L McKechnie. Medford: Published for the American Society for Information Science and Technology by Information Today, pp. 259-264.

Kalbach J (2006) I'm feeling lucky": The role of emotions in seeking information on the Web.' Journal of the American Society for Information Science and Technology, 57(6) pp. 813-818.

Kleinginna P, and Kleinginna A (2005) A categorized list of motivation definitions, with a suggestion for a consensual definition'. Motivation and Emotion, 5(3) pp. 263–291.

Kraaijenbrink J (2007) Engineers and the web: an analysis of real life gaps in information use.' Information Processing & Management 43(5) pp.1-21

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) pp. 361-371.

Kuhlthau C C (1993) A principle of uncertainty for information seeking.' Journal of documentation, 49(4) pp. 339-355.

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) pp. 399-412.

Kuhlthau, C C (2004) Seeking meaning: A process approach to library and information services. Libraries Unltd Incorporated.

Lazarus R S, (1984) Thoughts on the relations between emotion and cognition. Approaches to emotion. Hillsdale, New Jersey: Lawrence Erlbaum Associates (pp. 247–259).

Leckie G J Pettigrew K E and Sylvain C (1996) Modeling the Information Seeking of Professionals: A General Model Derived from Research on Engineers, Health Care Professionals, and Lawyers,' Library Quarterly 66 (2) pp. 161-193.

Lisa M, (2007) Emotional Entanglements on the University Campus: The Role of Affect in Undergraduates' Information Behaviours.' In Information and Emotion: The Emergent Affective Paradigm in Information Behaviour Research and Theory, eds. Diane Nahl and Dania Bilal (Medford, NJ: Information Today, 2007) pp. 168-69.

Liu M, and Redfern B (1997) Information seeking behaviour of Multicultural students: A case study at San Jose State University.' College and Research Libraries, 58(4) pp. 348-354.

Lopatovska I, (2009) Emotional aspects of the online information retrieval process. PhD. Rutgers University-Graduate School-New Brunswick.

Lopatovska I and Arapakis I (2011) Theories, methods and current research on emotions in library and information science, information retrieval and human–computer interaction.' Information Processing & Management, 47(4) pp. 575-592.

Lopatovska I and Cool C (2008) Online search: Uncovering affective characteristics of information retrieval experience. Presented at the 2008 ALISE annual conference, Philadelphia, PA.

Matteson M L, Farooq O and Mease D B (2013) Feeling Our Way: Emotional Intelligence and Information Literacy Competency. In Imagine, innovate, inspire: Proceedings of the ACRL 2013 Conference. Chicago, IL: Association of College & Research Libraries.

Maxwell J A (2012) Qualitative research design: An interactive approach: An interactive approach. Sage.

Mellon C A (1988) Attitudes: the forgotten dimension in library instruction.' Library Journal 113(14) pp. 137-139.

Nahl D (1998) Learning the Internet and the structure of information behaviour.' Journal of the American Society for Information Science, 49(11) pp. 1017-1023.

Nahl D, (2005) Affective and Cognitive Information Behaviour: Interaction Effects in Internet Use. In A. Grove, (Ed.), Proceedings 68th Annual Meeting of the American Society for Information Science and Technology (42). Medford, NJ: Information Today.

Nahl D and Tenopir C (1996) Affective and cognitive searching behaviour of novice end-users of a full-text database.' Journal of the American Society for Information Science, 47(4) pp. 276–286.

Noor K B M (2008) Case study: A strategic research methodology. American journal of applied sciences, 5(11), 1602-1604.

Onwuegbuzie A J and Jiao Q G (2004) Information search performance and research achievement: an empirical test of the Anxiety-Expectation Mediation model of library anxiety.' Journal of the American Society for Information Science, 55(1) pp. 41-54.

Paisley W J (1968) Information needs and uses. Annual review of information science and technology, 3(1) pp. 1-30

Qureshi M T Zafar K M and Khan B M (2008) Information needs & information seeking behaviour of students in Universities of Pakistan.' Journal of Applied Sciences Research, 4(1) pp. 40-47.

Reddy M C, (2003) Time to Work Together: Temporality, Collaboration, and Information Seeking. PhD. University of California, Irvine.

Safahieh H and Singh D (2006) Information needs of international students at a Malaysian University. PhD. University of Malaysia.

Sandstrom P (1994) An optimal foraging approach to information seeking and use'. Library Quarterly 64(4) pp. 414-449.

Sandstrom P (1999) Scholars as subsistence foragers.' Bulletin of the American Society for Information Science 25(3) pp.17-20.

Saunders M N Saunders M Lewis P and Thornhill A (2011) Research methods for business students, 5/e. Pearson Education India.

Schamber L (2000) Time-line interviews and inductive content analysis: their effectiveness for exploring cognitive behaviours.' Journal of the American Society for Information Science 51(8) pp.734-744.

Scherer K R (2005) What are emotions? And how can they be measured?.' Social science information, 44(4) pp. 695-729.

Shafique, F and Mahmood K (2013) Variable Affecting the Information Needs and Seeking Behaviour of Educational Administrators: A Review.' Pakistan Journal of Library and Information Science, (14) pp. 26-32

Shokeen A and Kushik S K (2002) Information seeking behaviour of social scientists of Haryana Universities.' Library Herald, 40(1) pp. 8-11.

Simon H A (1997) Models of Bounded Rationality. Volume 3: Empirically Grounded Economic Reason. Cambridge, Massachusetts: MIT Press. pp. 278

Smeaton A F and Rothwell S (2009) Biometric responses to music-rich segments in films: The diplex.' In Seventh international workshop on content-based multimedia indexing (pp. 162–168).

Soleymani M, Chanel G Kierkels J J and Pun T (2008b) Affective characterization of movie scenes based on multimedia content analysis and user's physiological emotional responses. In Proceedings of the 2008 tenth IEEE international symposium on multimedia (pp.28–235). Washington, DC, USA: IEEE Computer Society.

Song Y S (2005) A comparative study on information-seeking behaviours of domestic and international business students.' Research Strategies, 20(1/2) pp. 23- 34

Tidline TJ, (2005) Dervin's Sense-making, in Fisher, S. Erdelez and L. McKechnie (eds) Theories of information behaviour.. Medford: Published for the American Society for Information Science and Technology by Information Today, pp.113-117.

Tomkins S S (1984) Affect theory. Approaches to emotion. Hillsdale, New Jersey: Lawrence Erlbaum Associates (pp. 163–197)

Vakkari P (2001) A theory of the task-based information retrieval process: a summary and generalisation of a longitudinal study.' Journal of documentation, 57(1) pp. 44-60.

Vakkari P (2003) Task-based information searching.' Annual review of information science and technology, 37(1) pp. 413-464.

Wang P Hawk W B and Tenopir C (2000). 'Users' interaction with World Wide Web resources: an exploratory study using a holistic approach.' Information Processing and Management, 36, pp. 229-251.

Weiler A (2005) Information-seeking behaviour in Generation Y students: Motivation, critical thinking, and learning theory.' The Journal of Academic Librarianship, 31(1) pp. 46-53.

Wilson T D (1984) The cognitive approach to information-seeking behaviour and information use.' Social Science Information Studies, 4(2) pp. 197-204

Wilson T D (1997) Information behaviour: an interdisciplinary perspective.' Information processing & management, 33(4) pp. 551-572.

Wilson T D (1999) Models in information behaviour research.' Journal of documentation, 55(3) pp. 249-270.

Wilson T D (2000) Human information behaviour.' Informing science, 3(2) pp. 49-56.

Yin R K, (2003) Case study research design and methods third edition. Applied social research methods series, 5.

Appendix 1

Manchester Metropolitan University

Department of Information and Communication

Library and Information Management

Emotions in Information seeking Behaviour of Master students, at Manchester Metropolitan University.

Interview Schedule

Introduction

I am a master's students at Manchester metropolitan university. I am currently under taking a research for my thesis. I am investigating master students' affective behaviour during a search process.

I will appreciate your kind gesture for finding time to meet with me.

I wish to ask you questions on your research proposal, and several questions on your main search for your dissertation, and they include; search experience, what you do, how you feel during search process, your evaluation of the process, did you get help and general reflection of the entire process.

1 **How did you approach your actual search to help you decide and clarify your dissertation topic?**

- Did you have a clear idea of the topic before searching?
- How did you start the search?
- How did you decide when to stop?
- How did you decide what sources to include?
- What problem did you encounter
- How did you feel about the information for your research proposal

2 **How did you start the task of researching for your dissertation?**

- Did you change your topic after submitting your proposal?
- What search terms did you use?
- Did you discuss with your supervisor concerning your topic?
- How did you feel after choosing a topic

3 **How did you develop your search process?**

- Do you have a search strategy?
- Where did you search?
- Did you get what you wanted at the first attempt?
- If not, how did you redefine your search?
- How did you feel about the selection process?

4 **How did you decide which sources to use?**

- Did you find it easy searching?
- How did you decide whether to trust a source**?**
- What makes you think the sources selected are the best?
- Did you read sources before selecting?
- How did you feel during this stage?

5 **Do you think searching for a target information is stressful?**

- Do you enjoy searching?
- Do you search from the beginning to the end
- Did you get frustrated?
- How did you feel when you were not there yet?

6 **Did you ask for help during the search?**

- Why?
- How?
- How did you feel when you realise you needed help?
- How did you feel after receiving help?

6 **Did you undertake further literature search (after conducting your empirical   research) just before submitting?**

- Why? (New topics or updates?)
- How did you conduct your search? (Key author, current sources?)

- How did you feel at the end of your search?
  7 **Reflecting on your search process:**

- How did you feel when your search was successful?(relaxed, certain, confident)
- If your search was not successful, did you come back at it later?
- Did your search increase or decrease your confidence in your search skills? How?
- Do you regard yourself as an expert searcher? Why? What difference does this make to how you feel about searching for information?
  8 Optional**?**

- You seemed more able to discuss the steps in your search process, than your feelings. Why do you think this is?