THE INFORMATION SEEKING EXPERIENCES OF THE
POST-SECONDARY DISTANCE/ONLINE STUDENT

by

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Abstract

Understanding the information seeking experiences of distance/online learners is important because it sheds light on information seeking behaviour of distance learners, builds awareness about the phenomenon, and provides insights for practitioners, but there has been little prior research on this topic. This qualitative investigation builds on Library and Information Studies (LIS) information seeking research, framed by ideas associated with hermeneutic phenomenology as the theoretical framework.

The results of this study showed the ways in which participants’ perceptions and attitudes influenced their information seeking behaviour. Among the findings, five stand out as being particularly revealing about the participants’ information seeking behaviour: the high value placed on time (and the relational dynamic of time with motivation, domain knowledge, and source preference); the Dunning-Kruger Effect; perceptions about librarians, library resources and services; the connection made by participants between technological aptitude and searching success/outcomes; and searching experiences that contributed to altered or transformed searching behaviour.

The findings of this study are presented in five dimensions reflective of the descriptive and the interpretive range of the phenomenon of participant information seeking experiences: 1) Profile; 2) Essence; 3) Sense-Making; 4) Barriers; and 5) Transformation. The conclusions drawn from the study findings provide insights about the phenomenon of information seeking experiences and behaviour of distance/online learners and suggest changes to practice.
Preface

This dissertation is the original, unpublished, independent work by the author, Nancy Elizabeth Black.

This study was approved by the Behavioural Research Ethics Board, Office of Research Services, The University of British Columbia, UBC BREB Number: H08-01662, and by the Research Ethics Board, University of Northern British Columbia, REB Number: E2010.1210.218 (Extension of E2009.0825.125).

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Dedicated to the memory of my mother
Janet Marguerite Black, RN
(1926 – 2013)

Also dedicated to the memory of my aunt
Lois Anne Black, BA  BLS  MLS
(1928 – 2001)
Chapter 1 Introduction

1.1 Overview

Academic librarians have provided library services, library instruction, and resources to post-secondary distance students for over fifty years as evidenced in the distance services literature of the Library and Information Science (LIS) discipline. Standards for distance library services were introduced in 1962 by the Association of College and Research Libraries (ACRL), and the first Off-Campus Library Services conference, organized by Central Michigan University, was held in 1982 (Johnson & Fabbro, 2013). In Canada, Guidelines for Library Services for Distance Learning were approved in 1993 by the Canadian Library Association (CLA) and revised in 2000. Library services and resources for distance/online learners have continued to evolve in response to technological developments in distance and online learning.

Distance education, also known as distance learning, distributed learning, virtual learning, e-learning, online learning, or web-based learning has changed significantly in the last 20 to 25 years at post-secondary institutions from a static correspondence school model to a highly interactive dynamic learning environment. The literature on distance education across several disciplines such as Education, Health Sciences, Business, and Library and Information Studies (LIS), has explored facets of distance learning and offers guidance that contributes to the academic success of the distance/online student.

Building on existing LIS information seeking research and drawing on ideas associated with hermeneutic phenomenology, the purpose of this qualitative study was to investigate the phenomenon of everyday lived experiences with information seeking of
the post-secondary distance/online student and how those experiences were revealed in their information seeking behaviour.

1.2 Definitions

With the evolution of distance education from the correspondence school model to a technology-based model, the definitions of distance education and distance learners have altered. Prior to technological advances, distance education was primarily defined by geographic distance and the correspondence method of course delivery. It followed that the distinction between the distance student and on-campus student (engaged in face-to-face learning) was based on the same definition. Today, physical distance may still characterize the learning model and the distance/online student; however, since technology provides flexible options and educational opportunities regardless of student residence, a student taking online courses who lives on campus or in the same community as the educational institution can be considered a distance/online student. Although the definitions of the learning model and the distance/online learner have evolved, distance education literature emphasizes that the learning experiences for distance/online students are distinct from the learning experiences of the on-campus student in a face-to-face setting.

*Distance learning, distance education,* and their related terms – online learning, virtual learning, distributed learning, web-based learning, e-learning – are commonly used in the literature to describe distance/online learning. According to Keegan (1990), characteristics of distance learning include: separation between students and instructor during the learning process; separation of learners from each other; use of technology that allows two-way communication between learners and instructor; use of technology for
delivery of course and/or instructional content. For the purpose of this study, the distance/online learning definition is drawn from Kramarae (2001) who states: “the terms ‘online education’ and ‘distance learning’ refer to a system and process of connecting students, teachers, and learning resources when they are not in the same location” (p. 3).

*Technology:* computer hardware and software used to support distance/online learning platforms and to access the internet, information sources, library information resources and services.

*Synchronous/asynchronous* distance learning models: synchronous is a “same-time” learning model. In a synchronous model, learners and the instructor participate in lectures, presentations, and discussions that take place at the same regularly scheduled time. Typically, synchronous courses are delivered via audio/video conference or web conferencing software such as Elluminate Live, developed by Elluminate Incorporated and since acquired by Blackboard (1997-2014), a company that develops course management platforms. In an asynchronous distance learning model, generally there is no set scheduled class time when instructors and learners meet. Learners and instructors post messages, discussions, assignments and lectures; learners will sign on to read lectures and post comments or assignments throughout the course, usually according to specified deadline dates (Fleming & Hiple, 2004; Rousseau, 2012). Typically, asynchronous models are delivered on course management software products such as Moodle – Modular Object-Oriented Dynamic Learning Environment – (2014), an open source course management system, Desire2Learn (1999-2013) also known as D2L, or Blackboard.
Blended learning and its related terms hybrid model or distributed learning: blended distance learning refers to a learning model that combines one or more delivery methods: face-to-face instruction with online and/or audio and video conferencing with learners participating from various locations. Blended learning may also merge asynchronous with synchronous models. Graham (2013) notes that blended learning models continue to evolve as technology and teaching practices change.

Distance learner, and related, interchangeable terms – distance student, online student, non-traditional student: “Students enrolled in a distance or distributed learning program or completing formal course work off-campus” (CLA, Guidelines for Library Services for Distance Learning, 2000).

Distance learning library services: “Library services in support of college, university, or other post-secondary courses and programs offered away from a main campus, or in the absence of a traditional campus, and regardless of where credit is given. Courses thus supported may be taught in traditional or nontraditional formats or media, may or may not require physical facilities, and may or may not involve live interaction of teachers and students. The phrase is inclusive of services to courses in all post-secondary programs designated as: extension, extended, off-campus, extended campus, distance, distributed, open, flexible, franchising, virtual, synchronous, or asynchronous” (American Library Association, Guidelines for Distance Learning Library Services, 2008).

Information seeking: “a conscious effort to acquire information in response to a need or gap in your knowledge.” (Case, 2007, p. 5).

Purposeful information seeking: activities conducted by the study participants are understood as searches through various information sources/resources for the specific
purpose of seeking for information related to course work, as well as to employment, and/or personal purposes.

**Incidental encounters:** are understood as the unexpected, serendipitous, and coincidental discovery of information as experienced by the study informants.

**Information seeking behaviour:** “complex patterns of actions and interactions which people engage in when seeking information of whatever kind and for whatever purpose” (Ellis, 1997, p. 216), “how people need, seek, manage, give, and use information in different contexts” (Fisher, Erdelez, & McKechnie, 2005, p. xix), and “encompasses information seeking as well as the totality of other unintentional or passive behaviors (such as glimpsing or encountering information), as well as purposive behaviors that do not involve seeking, such as actively avoiding information” (Case, 2007, p. 5). For the purpose of this study, information seeking behaviour is understood to include the ways in which the study participants approach information seeking, make sense of information seeking, apply strategies during the process, and acquire information incidentally and purposefully. Information seeking behaviour is also understood to include reactions, feelings, avoidance, decision making, uncertainty, and anxiety, as well as other types of experiences and/or behaviours as exemplified in the information seeking behaviour research of Kuhlthau, Mellon, Dervin, and Savolainen.

**Everyday lived experiences:** In keeping with the tradition of a qualitative inquiry, as well as the perspectives related to hermeneutic phenomenology and the theoretical models of LIS information seeking research as evidenced in the work of researchers Erdelez, Bates, Kuhlthau, Savolainen, Chatman, Mellon, Williamson, and Dervin, the concepts of “experiences”, “everyday lived experiences” and the “experiences of the
“everyday life world” are understood to be the purposeful or incidental encounters, tasks, activities, practices, and occurrences involving interactions with information by distance/online students that are related to, but not necessarily restricted to, their academic life-world.

*Library anxiety:* feelings of fear and anxiety related to use of library resources and services. In a study conducted with university students, Mellon (1986) found that participants believed their library-use skills were inadequate in comparison to their colleagues, that their feelings of inadequacy were shameful, and fear of revealing this inadequacy prevented them from asking for assistance.

*Hermeneutics:* the study of interpretation of texts, the interpretation of the meaning of a central theme (Kvale, 2009).

*Phenomenology:* a philosophical viewpoint that seeks to understand a shared phenomenon as experienced by individuals; seeks to describe and understand the essence of the lived experience from their perspective (Creswell, 2007; Kvale, 2009; Van Manen, 1997). In this study, the shared phenomenon under investigation is information seeking as experienced by the distance/online participants.

*Hermeneutic phenomenology:* a framework that is attentive to the descriptive and interpretative in its research approach. Related terms in this approach specific to this study are: essence, life-world, being, being-in-the world, and lived meaning (Kvale, 2009; Van Manen, 1997).

*Essence:* “that what makes a thing what it is (and without which it would not be what it is); that what makes a thing what it is rather than its being or becoming something
else” (Van Manen, 1997, p. 177). For the purposes of this study, “essence” is understood to be the essential core of the participants’ lived experiences with information searching.

*Life-world:* refers to the world of lived experience, that is, the way in which an individual experiences the world. The life-world is closely linked with the concept of *being-in-the-world* and refers to the ways in which individuals interact with or are involved with the experiences of their world. The linked and related term: *lived meaning* refers to the understanding and meaning that an individual draws or interprets from events experienced (Van Manen, 1997).

*Academic life-world:* is primarily understood to be the participants’ engagement with formal learning in a post-secondary setting. In this study, the academic life-world of the participants overlapped with and integrated information seeking experiences related to employment and/or personal life. The academic life-world is also understood to be the physical setting, community, or environment within which the individual informant is operating. This includes home, work, library, classroom, online discussion, as well as other settings used by the informant. It should be noted that distance students often multi-task and operate in multiple settings: work related to school, paid employment, and personal activities are conducted in an employment setting and work for school and professional life is conducted in a home setting where personal tasks are also managed.

1. 3   **Research Problem**

Although various aspects of distance library service have been widely discussed in the LIS literature, the discourse tends to focus on the effective delivery of library services with little attention paid to the information seeking behaviour and the information seeking experiences of post-secondary distance/online students. While
information seeking research conducted with the overall population of post-secondary students might apply to the information seeking experiences of a population subset of distance learners, much of the distance literature emphasizes that learning experiences for the distance/online student are distinct from those of the traditional on-campus student in face-to-face learning settings. It follows, therefore that information seeking for distance students may also differ from the experiences of the on-campus student. Although some distance education literature notes an emerging trend of the blurring in the distinction between distance and local education (Howell, Williams, & Lindsay, 2003; Johnson & Fabbro, 2013), attention to the information seeking experiences of distance/online learner has been limited and therefore, invites investigation. As a doctoral student completing studies from a distance, I was able to identify with the study participants through similar experiences related to the advantages and challenges of distance/online learning.

1.4 Research Approach

The research approach for this exploratory qualitative inquiry was built on existing LIS information seeking theory and research as its conceptual framework. Concepts associated with communicative action informed the conceptual framework of this study. Beings, argues Heidegger (1996), strive to understand the experiences of their life-world and how those experiences connect and relate to being-in-the-world. The process of understanding, interpreting and learning from life experiences is similar to the information seeking process. Because Budd (2005) makes a compelling argument for applying a phenomenological approach to information seeking research, this study draws on ideas associated with hermeneutic phenomenology as its theoretical framework. The theoretical and conceptual frameworks complement each other in developing and guiding
the research method of the investigation. This methodological approach was selected because little is known about the phenomenon of the information seeking experiences of distance education students.

1.4.1 **Hermeneutic phenomenology**

Phenomenology is the study of the life-world with the intent to offer insights and understanding of the meaning of everyday experiences. Phenomenological research takes “its point of departure from lived experience” (Van Manen, 1997, p. 22) and is both a description of the “lived-through quality of lived experience” and a “description of meaning of the expressions of lived experience” (p. 25). Hermeneutic phenomenology is a branch of phenomenology that emphasizes the interpretative role in the exploration, elucidation, and description of the everyday lived experiences of an individual or individuals who share a specific phenomenon about which very little is known.

1.4.2 **Information seeking theory and research**

Information seeking theory and research, according to Ingwersen and Jarvelin (2005), can be characterized by two fields of discourse: information seeking within the social science domain reflective of the cognitive perspective, and information retrieval rooted in computer science. The cognitive perspective, a viewpoint that underpins much information seeking research, considers the mental processes that individuals experience and/or apply to the activities related to information seeking. This study, concerned as it is with a user-centered approach, is conducted in the context of the academic life-world of distance students and explores ways in which the informants experience and make sense of information seeking in their everyday world. The cognitive viewpoint reflective of the social science domain represents a relevant perspective for this study.
Budd (2005) makes a connection between the transformative, reflective aspects of phenomenology and the transformative, reflective, learned, and alterable experiences inherent in information seeking. As a research approach, therefore, the information seeking theories reflective of the user-centered cognitive perspective, such as those of Kuhlthau, Dervin, Bates, Williamson, Erdelez and Savolainen, provided the conceptual framework for this study. Since this study is interested in challenges and barriers related to information seeking experiences, the information seeking theories of Chatman and Mellon also provided context.

1.4.3 Communicative action

Habermas’ (1984) communicative action theory pertains to communication pragmatics and conventions amongst members of society. The theory is derived from critical theory, which assumes that certain groups in society are privileged over others and challenges social or cultural traditions. The concepts associated with communicative action are relevant to the conceptual framework of this study in two ways. First, since Benoit (2002) and Sundin and Johannisson (2005) suggest that linguistic standards used in information structures created by LIS are “socially recognized and culturally privileged”, distance learners’ experiences with accessing, and navigating traditional information structures (such as searching library catalogues and/or indexes and databases) are of interest. Second, these concepts intersect with Chatman’s theory of Information Poverty and the ways in which the experience of accessing resources from a geographic distance might create barriers to information and thus disadvantage learners. Further, it was of interest if or how physical distances might contribute to experiences, perceptions or feelings of isolation for distance students when seeking information.
1.5 Research Questions

In keeping with the research approach and the tradition of inquiry selected for this study, the main research question for this study is: From the perspective of post-secondary distance/online students, what are their experiences with information seeking?

Within this main question are four related sub-questions:

- What are the underlying themes and contexts of the experiences?
- How are the lived everyday information seeking experiences of the distance / online student manifested in their information seeking behaviour?
- What, if any, are the barriers that hinder distance/online students from finding, accessing, encountering, using, and interacting with information?
- What strategies are employed in finding, accessing, using and interacting with information?

1.6 Limitations of the Study

The purpose of an exploratory qualitative investigation is to shed light on a phenomenon about which little is known in order to develop insight that may have theoretical, but not statistical, generalizability. With the small number of self-selected participants in this study (17) some aspects of information seeking may not have been revealed. However the in-depth interactions with each participant meant that rich data was obtained from each individual. Participants for this study were recruited from two post-secondary institutions in British Columbia and their experiences with information seeking may have been influenced by institutional policies and practices.

Data collection (interviews, observations, participant journals) was reliant on participants’ self-reporting which may not fully reflect their information seeking
behaviour. In one data collection method within this study, an observation of an information seeking event was conducted that demonstrated a participant’s usual or typical approaches with information seeking. The fact that this event was recorded and that some direction was given means that this event was not entirely “natural” and therefore may not be fully representative of the participant’s usual experience. However the opportunity to collect data through observation proved to be valuable to the study despite the limitation.

The use of hermeneutic phenomenology as a research approach was a learning experience and while this approach appeared to be appropriate for this study, there were limitations that will be discussed in Chapter Five.

1.7 Justification for the Study

The LIS discipline has given attention to information seeking experiences and behaviour in the post-secondary setting. While information seeking research related to post-secondary students might be generalized to include the experiences of distance learners, much of the distance literature emphasizes that learning experiences for the distance student are distinct from those of the on-campus student. LIS distance library service literature tends to focus on the provision of library service and support for what is assumed to be the typical distance learner. Post-secondary institutions invest many resources in distance learning so information seeking research that focuses on distance/online learners is important in understanding the information seeking experiences, contexts, needs, issues of distance/online learners. The gap in information seeking research of distance learners’ experiences invites investigation. This study provides insight into the information seeking experiences from the perspective of the
distance learner that will inform policy and practice. By focusing on the voice of the
distance student and drawing on the ideas associated with hermeneutic phenomenology,
this qualitative inquiry contributes a different perspective to the LIS information seeking
literature.
Chapter 2 Literature Review

2.1 Introduction

This study investigated the information seeking experiences of post-secondary distance/online students. The conceptual framework, drawn from information seeking research, and the theoretical framework, drawn from ideas associated with hermeneutic phenomenology, formed the foundation of this study. This perspective guided the research approach, design, and the lens for analysis.

2.2 Conceptual Framework

Existing information seeking theory reflective of the cognitive user-centered perspective defines, explains and predicts information seeking behaviour; that is, how individuals seek, manage, need, use, share, and avoid information in various settings and contexts (Case, 2007; Fisher, Erdelez, & McKechnie, 2005; Ingwersen, Jarvelin, 2005). The information seeking theories that best complement the purpose and goal of this research are found in the work of Kuhlthau, Savolainen, Dervin, Erdelez, and Williamson whose cognitive user-centered theories informed and influenced the context and conceptual framework for this study. As this study is also concerned with challenges, marginalization, and barriers to information seeking experiences, Mellon’s Library Anxiety (1986) and Chatman’s Information Poverty (1996) theories, along with discussions by Benoit (2002), and Sundin and Johannisson (2005) related to communicative action, communities of justification, and culturally privileged information structures inform the conceptual framework of this study.
2.2.1 Information seeking process

Kuhlthau’s (2004) Information Seeking Process (ISP) model is a six-stage process of affective, cognitive, and physical tasks of information seeking developed as a result of investigations with students of all ages. Ways in which the informants of this study moved through Kuhlthau’s six stages during information seeking and how those experiences might be revealed through their information seeking behaviour were of interest.

Stage three of Kuhlthau’s model is the stage of uncertainty when individuals typically experience confusion, uncertainty, and lack of confidence as to how to proceed with the process. Kuhlthau identifies this as a positive stage indicative of learning and creativity, but at the same time notes that mediation from a librarian is required at this point to assist the individual through this stage. Given the nature of the online/distance environment, mediation at this critical stage could be challenging: the learner may not identify the stage of uncertainty, may not recognize mediation is needed and/or may not seek mediation. If the distance learner does attempt to seek assistance, mediation may not be readily available and accessible, or the learner may not know how to contact a librarian. The librarian may not have a mechanism for direct and proactive contact with distance learners to provide assistance and therefore will not be aware that mediation is needed. How the participants in this study grappled or came to terms with uncertainty and how uncertainty and mediation might be revealed through participants’ information seeking behaviour was relevant to this study.

According to Kuhlthau, the cognitive process of information seeking can be learned and is alterable through the process of seeking information as well as by the
information that has been found. In Budd’s (2005) discussion of the ISP he refers to this alterable process as a transformative experience and draws a parallel between this cognitive process and the transformative concepts related to the phenomenological experience. In this study, the ways in which the participants experienced the physical, cognitive and affective tasks in information seeking and whether the process was learned and alterable were relevant.

2.2.2 Library anxiety

Mellon’s theory of Library Anxiety states that students are reluctant to ask for assistance, their levels of anxiety prevent them from initiating a search for information, and their feelings of inadequacy are felt to be shameful and should be hidden. Collins and Veal (2004) investigated library anxiety with distance students and found evidence of anxiety related to access and use of library resources. Whether or not the participants of this study experienced anxiety, resulting either from information seeking experiences or accessing information and how anxiety might be revealed, was relevant to this study.

2.2.3 Isolation

An underlying assumption of this study is that when geographic distances exist between the learners and the home institution, learners may experience feelings of isolation. As a consequence, learners may be disadvantaged in their learning and information seeking experiences. This assumption is supported by distance education literature (Kramarae, 2001; Potter, 1998; Wiesenberg, 2001) as well as service guidelines promoting best practices for distance library service delivery (Dewald, 1999; Dewald, Scholz-Crane, Booth, & Levine, 2000; Van de Vord, 2010; Wolpert, 1998).
Chatman’s Theory of Information Poverty, which has been tested and applied to populations considered to be marginalized and identified as among the information poor, was relevant for this study. Through her research, Chatman found that certain groups, frequently lower income populations who are in need of information, are hindered from seeking information because of their own “self-protective behaviors” that typify the information seeking behaviour of marginalized groups (Chatman, 1996, p. 197). These self-protective coping behaviours are used by these groups to deny their need for information and/or hide information from others. As a consequence such behaviours hinder access to information. How isolation influenced the participants’ experiences with information seeking, and the influence of isolation on anxiety and uncertainty were explored in this study.

2.2.4 Everyday lived experiences – sense making

Because the focus of this study was the investigation of the authentic everyday lived experiences of distance/online students’ information seeking and how they make sense of the experiences, Dervin’s Sense Making and Savolainen’s Everyday Life Information Seeking theories are part of the conceptual framework of this study.

Dervin’s Sense Making theory is of particular interest to this study since LIS literature emphasizes that distance/online students encounter challenges when accessing resources, both in print and electronic format, the former due to the physical distances from libraries and the latter due to possible technological barriers (Brumfield, 2008; Collins and Veal, 2004; Dewald, 1999; Dewald et al., 2000; Van de Vord, 2010; Wolpert, 1998). Ways in which the participants of this study accessed library resources and made sense of or created strategies for searching the resources to bridge the gap between
access, searching and retrieving the information, was a focus of the investigation. Further, how the participants’ sense making experiences were revealed in searching behaviour and how their sense making experiences might intersect with Kuhlthau’s ISP and/or with Library Anxiety, particularly when barriers were encountered, was relevant to the research question.

Savolainen’s investigations of ways in which individuals searched for information for problem solving and to make sense of the everyday world were relevant to the conceptual framework (1995, 2008). His research has found that individuals rely on preferred sources of information and the information seeking process tends to begin with consulting other individuals as well as networked sources. How the participants revealed their everyday lived experiences with information seeking and source selection was a pertinent perspective to this study.

2.2.5 Communicative action

In his discussion about communicative action, a perspective that assumes that certain groups in society are privileged over others and attempts to challenge social or cultural traditions, Benoit (2002) makes a strong argument for applying this perspective to information seeking research. Information, notes Benoit (2002), is the “multi-faceted phenomenon abstract feature” studied in the LIS discipline and recommends that any philosophical discussion about information must “consider the concepts that structure our thinking and presuppositions about the purpose, forms, and validity of information” (p. 442). Information structures, argues Benoit, are usually “socially recognized and culturally privileged” and exist not only to store the information but also to “further the intellectual, political and social functioning of people” (p. 442). The structures in place
to manage information (in the tangible and intangible forms) represent a dominant discourse of privilege and should be challenged. The connection Benoit makes with communicative action, information seeking research and the informational needs of marginalized groups and individuals (the information poor, the “outsiders”) versus privileged members of society is complementary with Chatman’s (1996) theory of Information Poverty.

Another perspective in information seeking research which speaks to marginalization is evident in Sundin and Johannisson’s (2005) discussion of privilege with respect to traditional information classification structures. Their position is critical of information and information seeking research that neglects to consider “which interests are allowed to dominate and which interests are excluded from different communities of justification” (p. 31). “Communities of justification” refers to individuals who participate within groups of shared identity, characteristics, values, norms, and social practices. Various “communities of justification” may operate in competition with each other. Further, Sundin and Johannisson note that “when one discourse takes up a dominant position in relation to others it potentially means that marginalized groups are forced to use tools created to further the interests of other more powerful groups” (p.35). The authors state that “within the sphere of LIS” examples of such socio-cultural tools are “web-based user education or classification systems” which “mediate a view of knowledge, given truths and values that the user is not always aware of” (p. 35). The Sundin and Johannisson perspective is relevant to this study for its intersection with Chatman’s theory of Information Poverty as well as the way in which their discussion
complements Benoit and Budd’s philosophical arguments. The perspectives of Benoit, Chatman, Sundin and Johnnisson are consistent with the perspective taken in this study.

2.3 Theoretical Framework

Heidegger (1996) explains that as beings, we strive to understand and make sense of our experiences and make sense of our being-in-the-world. The concept of “being-in-the-world”, synonymous with “being”, is elusive and Heidegger suggests it is challenging to define being because as life-world experiences shift and change, so too does the concept of being. The shifting, ever-changing experiences are transformative in helping us make sense of the world around us and contribute to deeper understanding. Heidegger envisions that looking for a way to follow an idea is instrumental to our questions and answers. Being, as Heidegger explains, is disclosed through life-world experiences and these encounters are temporal. In considering the temporal, he links time with being and asks: “Is there a way leading from primordial time to the meaning of being? Does time itself reveal itself as the horizon of being?” (p. 398). Linking time with being is suggestive of an iterative process as beings continue to seek to make sense of the world and gain deeper understanding. The process of following an idea and searching for understanding, emulates the information seeking process: individuals seek information, assess the ideas, and as a consequence, previously held understanding or knowledge is changed.

Ideas reflective of Heidegger’s perspective with hermeneutic phenomenology as interpreted by Budd (2005), Kvale (2009) and Van Manen (1997) form the theoretical framework of this study. An emerging body of LIS literature discusses information and information seeking by drawing parallels between the nature of information (specifically
how people interact with information) and various philosophical approaches such as phenomenology. These discussions suggest that interpretive research models/approaches, such as hermeneutic phenomenology, and similar philosophical explorations of language, communicative action and communities of justification, are highly appropriate to information seeking research (Benoit, 2002; Budd, 2005; Hansson, 2005; Sundin & Johannisson, 2005). However, very little research in information seeking seems to have been conducted using interpretive philosophies such as hermeneutic phenomenology as a research approach.

Hermeneutic phenomenology was selected as a theoretical framework for this study because it supports a qualitative inquiry, and complements the purpose, goal and conceptual framework of this study. This research approach was also selected because as noted by others (see for example Budd, 2005; Benoit, 2002; Hansson, 2005; Sundin & Johannisson, 2005) the approach is complementary with the philosophical discussions of information seeking and the transformative nature of information.

2.3.1 *Phenomenology*

Phenomenology, and its branch hermeneutics, is a movement dating from the late 1800s that is a reflective discipline with philosophical roots (Van Manen, 1997). Leading individuals of the movement include Husserl, Heidegger, Gadamer, Arendt, and Ricoeur. Husserl founded the movement and Heidegger developed the philosophy further as an existential philosophy (Kvale, 2009). Budd (2005) states that Husserl and Heidegger were particularly influential and can be recognized as giants within the movement.

There is no single definition of phenomenology, but it can generally be described as an approach applied to the study of the life-world that endeavours to attain an in-depth
understanding of the meaning of our everyday lived experiences (Van Manen, 1997). Phenomenology, Kvale (2009) notes, began with consciousness and experience and was later developed by Heidegger to include the human life-world. Heidegger’s human life-world is an existential perspective of the life-world structures, a study of “Being”, or “ways-of-being-in-the-world” (Van Manen, 1997, p. 183).

2.3.2 Hermeneutic phenomenology

As a branch of phenomenology, hermeneutic phenomenology shares similar concepts with phenomenology in its study and description of life-world experiences. Where phenomenology seeks to describe a phenomenon, hermeneutics is the practice of interpretation of a phenomenon. Hermeneutic phenomenology is attentive to both the descriptive “because it wants to be attentive to how things appear, it wants to let things speak for themselves”, and the interpretive “because it claims that there are no such things as uninterpreted phenomena” of the lived experiences (Van Manen, 1997, p. 180).

Other sciences focus on “statistical relationships among variables, on the predominance of social opinions, or on the occurrence or frequency of certain behaviors” (Van Manen, 1997, p. 11), but hermeneutic phenomenology is set apart from other sciences by giving attention to understanding meaning of everyday experiences of the life-world. In studying “meaning” of those everyday experiences, phenomenology becomes an investigation of the “essences” of a shared experience; that is, the core, the centre of a phenomenon, the essence of which is “a universal which can be described through a study of the structure that governs the instances or particular manifestations of the essence of that phenomenon” (p.10). Kvale (2009) similarly states that in studying essences, or the structures of lived experience from the perspectives of individuals, there
is a shift from explaining the separate phenomena to looking for the essence shared in common.

Hermeneutic phenomenology builds and extends the study of the life-world with the attempt to build a full interpretive description of an aspect of the life-world (Van Manen, 1997). In other words, while phenomenology seeks to describe the experiences, hermeneutic phenomenology seeks to describe and interpret the experiences to reveal greater understanding and meaning of those everyday experiences. However, as Van Manen states, the challenge in this is “to remain aware that lived life is always more complex than any explication of meaning can reveal” and it is a “human science interested in the human world as we find it in all its variegated aspects” (p. 18). To state it another way, while hermeneutic phenomenology may attempt to reveal, describe and interpret the meaning of everyday lived experience, it is only possible to reveal some aspects of the lived life or aspects of a perspective of lived life because of the multi-faceted complexities of lived life. These descriptive points and concepts about phenomenology and hermeneutic phenomenology have resonance for this study as its purpose is to uncover and elucidate an interpretive description of the phenomenon of the information seeking experiences of distance students.

2.3.3 Characteristics of hermeneutic phenomenology

There is no unified canon for phenomenology but there are commonly shared characteristics as well as differing stances. Embree’s (1998) discussion of the phenomenology movement succinctly summarizes the similarities and differences, noting in particular that the shared concepts or “tendencies” can all be linked to the “early work of Husserl, but the existential and hermeneutic tendencies are also deeply influenced by
the early work of Martin Heidegger” (p. 334). A key shared tendency of phenomenology and hermeneutic phenomenology is the concept of “consciousness”. With respect to “consciousness”, Van Manen (1997) explains that to be conscious is to be aware of the world, which has significance for phenomenology; however, he emphasizes that “consciousness is not the same as the act in which it appears”. In other words, it is not possible to “reflect on lived experience while living through the experience”. Thus, “phenomenological reflection is not introspective but retrospective”, it is “reflection on experience that is already passed or lived through” (p. 10). In his discussion of Van Manen’s approach, Creswell (2007) notes that finding meaning in the essential themes of the lived experience derives from a process that is both reflective and interpretative.

2.3.4 Hermeneutic phenomenology and the transformative nature of information

Budd (2005) notes that while “consciousness” is a core concept “integral to all conceptions of phenomenology” (p. 45), Heidegger’s perspective introduces the interpretative role of hermeneutics with phenomenology. Budd argues that Husserl and Heidegger’s concepts have strong links with information seeking in the sense of being conscious of the transformative nature of information evolving to knowledge in addition to the significant reflective, interpretive role related to the process of information seeking. To state it more emphatically, the reflective nature of the information seeking process contributes to the transformation experience of information to knowledge, or the transformation of information to consciousness.

Budd (2005) suggests that the root or heart of Husserl’s philosophy is knowledge and refers to Husserl’s concept of “Being” which is dependent on the human aspect of thinking and the condition of consciousness (p. 47). One of the contributions of
phenomenology to understanding and knowledge, notes Budd, is the “diminishing of distance” between the thinking subject and the content of thought. This “diminishing of distance” between the subject and thought is a transformative process that bridges the gap or diminishes the gap between the experience and interpreting the experience in order to understand and be changed or transformed by the experience. The transformation of information to knowledge, that is, how the individual comes to experience, interact, or enact information in order to transform this to knowledge and be changed as a consequence, Budd argues, is a description of the information seeking process. He further states that it is the transformative process of information seeking behaviour of individuals as a phenomenon that lends itself to the phenomenological inquiry.

Where Husserl is concerned with the “‘object’ (the thing as it is in nature), with the ultimate aim of discovering the transcendental essence of the thing”, Heidegger, explains Budd, “reverses the process” and focuses on a higher place of existence in order to understand the natural existence of the phenomenon and is more concerned with “the examination of what is, or being” (p. 48). Budd notes that it is the self-reflective concept of “being”, that is the ability to be both “conscious and aware” and “examine its own existence”, which Heidegger connects to hermeneutics that is the most profound signifying characteristic of Heidegger’s stance (p.48). It is this self-reflective concept of being that has significance for LIS and for information seeking. To emphasize the self-reflective concept of being and the connection of this concept to LIS, Budd expands on this point further by explaining:

Any serious examination of the information should take into account the interpretive ontology of Heidegger. The question, “What does it mean to be informed” is the kind of reflective questioning that is integral to being. In what ways does being informed alter being in the
Heideggerian sense? What are the processes by which a person could change being and existence? [......] If information gives shape to our thoughts and beliefs, what happens within us that results in reshaping? For example, what would be required of any classificatory scheme so that it genuinely informs? The development or revision of categorizations would have to be a deeply reflective and interpretive action. Seeking information similarly necessitates such a reflective and interpretive action that inevitably has at least some existential character (p.48-49).

These comments speak to the foundational LIS philosophies and principles of the tangible and intangible concepts of information, the transformative nature of information to knowledge, and the reflective / interpretive actions related to information and information seeking. Budd references the work of Belkin (1980), Dervin (1977, 1992) and Kuhlthau (2004) as embodying some elements of the phenomenological approach and principles in their information seeking research. I would further suggest that the information seeking theories developed by Bates, Williamson, Erdelez, Chatman, Mellon, and Savolainen also embody elements of this philosophy.

In an earlier but similar discussion to Budd (2005), Benoit (2002) also notes that because of its principles of interpretation, hermeneutics as an approach to information seeking research finds resonance in the LIS discipline (p. 453). Using hermeneutics in information seeking research invites possibilities for greater understanding of information seeking behaviour and Benoit suggests that its interpretative power can “bridge the gap between theory and practice” (p. 453). This particular point refers both to the reflective activity related to the information seeking process as well as linguistic use in interactions with representational structures of information. More importantly, however, the hermeneutic philosophy “alters the conception of the user in information retrieval system and in LIS practice” and as a perspective “sees the user as more of a cognizant,
interpretive participant in the object of LIS study” (p. 463). In other words, this is an approach that allows an individual to articulate, or possibly reflect on their information seeking experiences. The phrase “alters the conception of the user” also alludes to that transformative process of information to knowledge described by Budd.

2.4 **Review of Distance Education and LIS Literature**

The literature pertaining to distance education was reviewed for background information. From the Library and Information Studies (LIS) discipline, the body of literature specific to distance library services was surveyed as well as relevant LIS information seeking research.

2.5 **Context of Distance Education**

To provide context for this study, distance education literature that gives a brief historic overview, discusses the profile of the distance learner, and the advantages and challenges of distance learning was considered relevant.

2.5.1 *Historical roots of distance education*

Distance education has a long history: accounts of education by correspondence in Great Britain and the United States date to the early 1700s (Harper, Chen, & Yen, 2004; Rousseau, 2012). Harper et al. observe that the United States Postal Service was instrumental to the establishment of correspondence education, and they further note that as the U.S. population increased, correspondence education was a means to educate and entertain, as well as disseminate information across geographic boundaries.

Moore (2013a) and Rousseau (2012) state that William Rainey Harper is credited with founding the first university-based correspondence school in 1881 at the University of Chicago to provide education to those unable to participate in classroom settings.
Distance education expanded steadily in the U.S. in the decades that followed, with Charles Wedemeyer from the University of Wisconsin playing a leading role in the 1930s with respect to distance education scholarship, student-centered learning, independent learning, and the application of technology to education (Diehl, 2013; Moore, 2013a).

Distance education in Canada was established in the late 1800s and early 1900s and its development seems to have been influenced by distance learning models of the United States and the United Kingdom. McGill University began offering correspondence courses in 1889, and the University of Saskatchewan and the University of Alberta began offering extension courses in 1912. Throughout the 1920s, 1930s, and the 1940s, distance education was offered by various Canadian educational institutions for those students unable to attend an institution, and by the 1950s institutions were using technology to deliver education (Haughey, 2013). The University of Alberta is noted for being the first university in Canada to provide distance courses by radio in the 1920s (Cormack, 1981). Athabasca University, a Canadian distance education institution, was originally intended to be a conventional institution when it was founded in 1970. By 1975, influenced by the British Open University, it had developed into a fully-fledged distance education institution (Pittman, 2013). Currently in Canada, some form of distance and online learning is offered by most post-secondary institutions (Haughey, 2013; Poellhuber, Roy, & Anderson, 2011; Potter, 1998; Wiesenberg, 2001).

For an overview of distance education from its early history and the evolution of the correspondence model to technology-based delivery see Diehl (2013), Fleming and Hiple (2004), Harper et al., (2004), Keegan (1990), and Pittman (2013).
2.5.2  Transformation from correspondence to the virtual

The technological explosion of the 1990s dramatically transformed post-secondary distance/online learning from the traditional text-based correspondence school model to a virtual and highly interactive / dynamic learning environment within a short period of time (Burgstahler, Corrigan & McCarter, 2004; Harper et al., 2004; Kember, McNaught, Chong, Lam, & Cheng, 2010; Kramarae, 2001; Poellhuber et al, 2011; Zhang & Kenny, 2010). Technology was key in the provision of flexible learning options and instrumental in the creation of distance/online learning communities regardless of where the student resided.

An analysis of two distance education journals (American Journal of Distance Education and the Journal of Distance Education) from 1987 to 2005 conducted by Ritzhaupt, Stewart, Smith, and Barron (2010) found references to teleconferencing began to decrease in numbers by 1994 while references to computers, computers as a tool, and computer access – noted as a “major concern for rural, low income, and disabled populations” (p. 49) – emerged in the 1994 to 1999 time period.

Within the Canadian context, discussion of this transformation to a virtual distance learning environment is evident in the literature of the late 1990s and early 2000s (Lewis & Smith, 1999; Potter, 1998; Steinmueller, 2002; Tuinman, 2000). Canada, with its widely dispersed population and well-established knowledge-based society, embraced the virtual distance learning environment by creating educational opportunities directed to those who previously did not or could not pursue higher education. Canadian government documents and the literature of various disciplines engaged in the discourse and practice of distance education (education, health, social
work, business, computer science) praise the virtual learning environment for its expanded post-secondary educational opportunities and promote its socio-economic advantages (Fichten, Asuncion, Barile, Fossey, & de Simone, 2000; Katz & Rezaei, 1999; Lewis & Smith, 1999; Oakley & Stevens, 2000; Potter, 1998; Stanton, 2001; Steinmueller, 2002; Tuinman, 2000; Wiesenberg, 2001). Support for the opportunities and advantages of distance learning for Canadians continues to be discussed in recent literature (Guilar & Loring, 2008; Hebert & Lau, 2010; McAuley & Walton, 2011; Poellhuber et al., 2011; Power & Vaughan, 2010; Steel & Fahy, 2011).

2.5.3 Distance education literature – characterization

While distance education research is conducted in Canada, the United Kingdom, Australia, and other areas of the world, distance education scholarship seems to be predominantly based in the United States (Ritzhaupt et al., 2010). Broadly speaking, distance education literature emphasizes that the online learning environment differs from the on-campus face-to-face learning environment in the areas of learner characteristics, pedagogical models, need to build a sense of community for learners, and integration of technology (Kim, Kozan, Kim, W., & Koehler, 2013; King, Harner, & Brown, 2000; Kitsantas & Chow, 2007; Kramarae, 2001; Ritzhaupt et al., 2010; Rovai, 2000, 2002, 2003; Stavredes & Herder, 2013; Zhang & Kenny, 2010).

In her overview and assessment of the scholarship of distance education literature, Linda Black (2013) notes that distance education research in the United States emerged in the early 20th century and that in the latter part of the 20th century, studies tended to examine the effectiveness of delivery technology, an observation also made by Ritzhaupt et al. (2010) in their analysis of topical themes in two distance education journals. Black
cites Zawacki-Richter, and Davies, Howell, and Petrie when she discusses their analyses of literature in the *American Journal of Distance Education* from 2000 to 2008 and 1998 to 2007 respectively. These analyses revealed that the most researched topics were instructional design, learning styles, and evaluation. According to Black, most literature “consisted of descriptive, self-reports, i.e., studies which addressed the perceptions, concerns, and satisfaction levels of various stakeholders within a single, particular distance education experience” whereas topics such as “innovation and change management or intercultural distance learning phenomena” were neglected (p. 6). She also notes the need for theory-based research and the application of rigorous methodologies in the scholarship of distance education.

Ritzhaupt et al. (2010) state that although distance literature is being rapidly produced it is their view that the “empirical characterization of the field and its evolution is lacking” (p. 38). The authors cite seven previous studies published from 1997 to 2009 that analyzed research articles in distance education journals such as *American Journal of Distance Education, Journal of Distance Education, Distance Education, Open Learning,* and the *International Review of Research in Open and Distance Learning* – from 1987 to 2008 to uncover topics, themes, trends, authorship, and methodologies. These studies revealed themes related to policy, pedagogical practices, course design, effectiveness of distance learning and delivery, learner characteristics, technology, quality of education, and online learning communities. Research methodologies included qualitative, quantitative, mixed methods, case studies, focus groups, and descriptive methods, with mixed methods and quantitative used the most frequently. Contributors were predominantly from the United States (one study cited by Ritzhaupt et al. reported 70%
were from the US and 20% were from Canada; another study of the Canadian publication *Journal of Distance Education* reported 52% of first authors were affiliated with Canadian institutions).

Ritzhaupt et al. (2010) determined that although the previous studies had identified themes and attempted to generalize findings and inform practice, many questions remained. Using co-word analysis, Ritzhaupt et al. analyzed the abstracts of 517 research articles from the *American Journal of Distance Education* and the *Journal of Distance Education* between 1987 and 2005 for themes and trends during the pre-web (1987-1993), emerging web (1994-1999), and post-web (2000-2005) time periods. Ritzhaupt et al. describe co-word analysis as an automated content analysis technique that maps the relationships and co-occurrence strengths of terms within textual data.

The purpose of the Ritzhaupt et al. study was to identify themes reflected in the abstracts of the two distance education journals, the relationships among the themes, and to determine how the themes have changed over time. Three key findings are presented. The first pertains to themes over the three time periods. In the pre-web time period, central themes were concerned with the need to develop quality distance courses and institutional policy; during the emerging web time period, central themes emphasized the study of distance education (i.e. as a discipline) and the “development of sound theory”; and post-web abstracts emphasized “strategies for communication and interaction” and revealed that “interaction and communication among learning communities were the most frequently studied areas” (p. 56). Second, they note that certain themes had diminished in importance, such as references to teleconferencing. In contrast, other themes emerged and evolved in the second and the third time periods, such as increased
number of references to “interaction” and “the tool computer”, and that “instruction may be a direct link to the emergence of interaction in distance education research literature” (p. 57). Their third observation is about the literature: “distance education research is broad in scope and can be characterized as having few consistent and focused lines of inquiry” and further there are “many facets and contours of distance education” (p. 57). The study recommends that distance education researchers and practitioners explore other methods to more precisely define the contours of the discipline.

2.5.4 Distance students

From its beginnings, distance education in the United States held appeal for learners. Harper, et al. (2004), Kramarae (2001) and others (Antoine, 2011; Keegan, 1990; Rousseau, 2012) credit convenience, the necessity to obtain education, economic growth, employee training, interest in lifelong learning, technological change, changes to the job market, higher numbers of women entering the workforce, and higher costs of post-secondary education as contributing reasons for the interest in distance learning leading to its widespread, rapid development. Canadian distance education literature from the late 1990s to the early 2000s highlights similar discussions about the broad appeal as well as the advantages of distance learning for Canadians (Lewis & Smith, 1999; McAuley & Walton, 2011; Potter, 1998; Steel & Fahy, 2011; Steinmueller, 2002; Tuinman, 2000).

Historically and continuing to the present, distance learning programs in the United States attracted women. Harper et al. (2004) comment that in the late 1800s “young women of leisure”, who were interested in education but “confined to their homes”, participated in correspondence programs (p.588). In their review of distance
learning trends, Howell et al. (2003) reference studies reporting higher numbers of women than men engaged in distance education. Kramarae (2001) observes that in the “past century, women constituted the majority of students in correspondence programs” (p. 5), and citing a 2001 U.S. Senate document, states the average distance learning student is 34 years old, female, employed part-time, and has previous college education. She also comments that women as primary users of online education “often have been – and are today – targeted as a primary constituency for online learning” (p.5). Further evidence is found in two recent studies conducted by librarians with distance learners and reported in a distance library services journal. One stated that 173 (74%) of their participants were women and 61 (26%) were men (Dow, Algarni, Blackburn, Diller, Hallett, Musa, ….Valenti, 2012), while the other reported that all 15 participants in the class under investigation were women (Diekema, Holliday, & Leary, 2011).

The distance learner demographic is similar in Canada. In her 1998 study, Potter notes the majority of distance education students are women and reports that of her 224 study participants “four out of five were women, with three-quarters aged 25-50” and those who were aged 25 and older were mainly part-time students. A more recent Canadian study conducted by Poellhuber et al. (2011), reports that women were responsible for 75.3% of their 3,462 completed questionnaires, and that these numbers reflect the gender representation associated with distance education. In a recent Canadian study based at Royal Roads University in British Columbia (a mainly distance education institution) that examined access and use of information sources, authors Mussell and Croft (2013) report their “institutional gender split is comprised of slightly more women” and that of the 1,038 survey respondents, 611 (58.9%) were women (p. 23).
That more women than men are engaged in distance learning is confirmed in studies conducted by Barnard-Brak, Lan, and Paton (2010), Byrne and Bates (2009), Dow et al., 2012, Kramarae (2001), Liu and Yang, (2004), Mussell and Croft (2013), Poellhuber et al. (2011), Potter, (1998), Riddle (2012), Rousseau (2012), Van de Vord (2010), and Zhang and Kenny (2010). Distance education literature characterizes the post-secondary distance student as: female, mid 30s to mid/late 40s with family/children, previous post-secondary education, and employed either part-time or full-time while attending school at an educational institution based in a community other than that in which the student resides (Antoine, 2011; Dewald et al., 2000; Howell et al., 2003; Potter, 1998; Kramarae, 2001; Rousseau, 2012).

2.5.5 Distance students – learner characteristics

Distance learning literature consistently states that key characteristics that learners should possess include time management skills, self-regulation, self-direction, and independent learning. Independent, self-directed and self-regulated learning has been considered fundamental to distance education since the 1970s, as Anderson (2013) notes in his review of independent learning discussions in distance education literature.

Additional strategies, such as persistence, goal setting, control over learning, effective decision making, and use of social ecologies have also been identified as critical in support of learning. Social ecologies are resources individuals might integrate into their routines to support their learning and assist with the management of various school-related and/or personal priorities. The literature reports that academic success for the distance learner is more likely when students consciously develop and employ such strategies (King et al., 2000; Kramarae, 2001; Rovai, 2000, 2002, 2003).
Three recent doctoral dissertations, one from the social and behavioral sciences discipline (Rousseau, 2012) and two from the education discipline (Antoine, 2011; Riddle, 2012) reported on phenomenological studies investigating online learners. While each study explored different aspects of their lived experiences as online learners, some of their findings were consistent with reported distance education literature with respect to learner characteristics. Their participants valued the flexibility and convenience of online learning as many were managing multiple priorities. Other similar findings that emerged related to the need for self-discipline, time management and other types of coping strategies to manage priorities, commitment to their studies, the need for support resources, importance of prior computer knowledge, and an instructor with strong teaching skills.

Rousseau’s (2012) study investigated lived experiences of adult female online learners as they balance work, family, and studies. Using teleconferencing software and webcams, Rousseau conducted semi-structured interviews with eight women over the age of 25, with a child/family, enrolled in a graduate program, and employed full-time. Her findings identified eight themes, some of which are consistent with distance education literature as noted above. She found that her participants reported feeling some anxiety or urgency to complete their programs for job advancement and also reported feeling both overwhelmed and guilty – which stemmed from managing multiple priorities and feeling that their studies took attention away from families. Rousseau’s findings bring awareness to the nature of priorities and how those priorities are managed for online adult female students with families who are also employed full-time.
Antoine (2011) interviewed five adult learners who had not completed post-secondary education in the traditional face-to-face setting and had elected to return to complete their degrees through online programs. Antoine found that her participants exhibited strong psychological motivational factors that affected attitudes, confidence, decisions, and determination to complete their studies.

The third doctoral study investigated if or how information overload of course content hindered online learning experiences. Riddle (2012) interviewed ten students taking at least one online course who reported experiences with information overload. Riddle found evidence of anxiety related to information overload and lack of familiarity with course content as well as with academic services, but noted that once participants became more motivated and self-directed in familiarizing themselves with navigation of course content they were less anxious. Her participants also reported that once coping strategies were developed, their feelings of being overwhelmed were alleviated and they achieved success with their online courses. Riddle concluded that experiences with information overload had not hindered the online learning experience for her participants.

While on-campus students may also apply the various strategies noted above to support learning, distance learning literature emphasizes that the online distance educational delivery models combined with the student’s isolation from instructors, fellow students, and academic services create a learning environment that differs from the on-campus face-to-face experience. The assertion that distance learning is different from on-campus learning is evident in studies and discussions that outline the philosophy, principles and practices that recommend effective pedagogical approaches for distance/online learning. (See Anderson, 2013; Barnard-Brak et al., 2010; Chen, 2009;

2.5.6 Distance setting – sense of community, collaboration

In their overview of distance literature reporting on student persistence in distance learners from the 1970s to the early 2000s, Stavredes and Herder (2013) observe that teaching strategies are instrumental in supporting persistence, learner engagement, and social presence – that is, creating a sense of community for learners. Some factors that may negatively impact learners’ persistence are beyond the control of the educational institution, but scaffolding frameworks appear to support persistence and learner engagement. In particular the authors recommend that distance instructors integrate a cognitive scaffolding framework into course design to “keep learners on task and encourage critical and strategic thinking” (p. 167). Stavredes and Herder conclude that in addition to various factors that support success and contribute to learner persistence, learner engagement is also critical.

With respect to building a sense of community for distance/online learners, the literature credits collaboration, group facilitation, small student-teacher ratio, social equality, active instructor presence, and self-directed learning with contributing to the sense of community as well as enhancing the learning experience (Rovai, 2000, 2002). Although many distance education authors advocate collaboration and report a strong connection between collaboration and academic success (Kim et al., 2013; King et al., 2000; Moore, 2013b; Rovai, 2000, 2002, 2003; Wiesenberg, 2001), other researchers have found that learners have negative experiences with collaboration and collaborative
learning (Lee & Tsai, 2011; Zhang & Kenny, 2010), while some researchers report mixed student reactions to collaboration (Kramarae, 2001; Ocker & Yaverbaum, 2001; Poellhuber et al., 2011).

2.6 Context of Barriers in the Distance Learning Environment for this Study

For all its promised opportunities and advantages for people of all groups within Canadian society (McAuley & Walton, 2011; Oakley & Stevens, 2000; Stanton, 2001; Steel & Fahy; 2011; Steinmueller, 2002; Tuinman, 2000) distance learning is not without its disadvantages. Typically, those disadvantages are identified as barriers related to the physical distances and technology. It is evident from the discussion in the literature that distance learning can both minimize educational challenges and create barriers for the learner that are not as apparent in the face-to-face setting.

Educators Wiesenberg (2001) and Potter (1998) eloquently describe the challenges of isolation, distance, and access issues that distance learners face. Their research found that such challenges stem from three types of barriers: situational, institutional, and dispositional. Situational barriers are specific to the personal situation or environment of the learner. Institutional barriers reflect the degree to which the institution seeks to minimize the distance barrier and support academic success by providing instructional enhancements and student services. Finally, dispositional barriers refer to the degree to which the institution is willing to respond to students’ needs in the provision of support services to the same level provided for on-campus students.

Kramarae’s (2001) report noted that women “value interactive experiences in education, personal relationships with advisers and counselors, and collaborative learning” (p. 51); however she found that while some participants felt isolated, others felt
connected, and some preferred their independence. Her report also notes that for those students with physical disabilities, online learning resolved access issues. While Kramarae identifies barriers for distance learners, the reactions to those barriers amongst her participants were mixed.

More recent literature considers other types of potential barriers for distance learners. Crichton and Kinash (2013), and Zhang and Kenny (2010) for example, discuss the need to accommodate distance learners with disabilities (physical, cognitive, psychological) as well as consider learners of cultural diversity.

2.7 Context of Distance Library Services for this Study

Literature from the LIS discipline pertaining to distance library services was reviewed to provide background and context for this study. Broadly speaking, distance library literature is characterized by two fields of discourse: literature that pertains to the provision and practice of library services in support of distance learning at academic institutions, and literature that discusses LIS Masters and PhD degrees delivered by Library and Information Science distance programs. As the focus of this study is concerned with the information seeking experiences of non-LIS distance students in British Columbia, Canada, the body of research related to the LIS distance programs and LIS distance students will not be part of this discussion except as it relates to general themes. As this study is interested in the cognitive user-centered information seeking perspective, research-based investigations reflective of this viewpoint were particularly significant.
2.7.1 *Distance library services*

While distance education has had a long history in North America, library service offered by North American academic libraries in support of distance learning is relatively recent. As distance education programs and institutions became established in the 1920s and 1930s, library services probably consisted of mailing library materials to learners. According to Johnson and Fabbro (2013), standards for distance library services practice were first introduced in 1962 by the Association for College and Research Libraries (ACRL), suggesting that academic librarians in the United States were providing distance library services around the same time period.

In Canada, distance learning offered by McGill University began in 1889 and by the University of Saskatchewan, and University of Alberta in 1912, and by Athabasca University in 1975. Standards for distance library services were introduced by the Canadian Library Association (CLA) in 1993. This would indicate that library services in support of distance learning were established by this time.

Before 1970 there was very little literature published about distance library services (Herring, 2010). In the early 1980s, growing interest in professional and scholarly development in distance library services can be linked with the establishment of the biennial Off-Campus Library Services (OCLS) conference. Central Michigan University Libraries hosted the first OCLS conference (now called the Distance Library Services Conference) in 1982 and continues to organize it in an American city (Reiten & Fritts, 2006). The conference attracts speakers and delegates from North America and internationally. The majority of distance library literature is published through the OCLS conference proceedings and prior to 2010 co-published in the *Journal of Library*
Administration. Presentations since 2010 continue to be available as conference proceedings and are co-published in the *Journal of Library and Information Services in Distance Learning*.

2.7.2 Distance library literature – characterization

LIS distance library literature, as with distance education literature, emphasizes that the learning environment for distance/online students is different from the learning environment of on-campus students in face-to-face settings, identifies the typical distance learner as female, and agrees that academically successful distance learners generally are self-directed, motivated and possess strong time management skills (Dewald, 1999; Dewald et al., 2000; Diekema et al., 2011; Dow et al., 2012; Johnson & Fabbro, 2013; Ladell-Thomas, 2012; Lindsay, 2000).

Literature published during the 1980s and early 1990s primarily focused on the role of libraries, inter-library cooperation, standards and quality of service delivery and librarian practices, access and delivery of resources, and information literacy instruction for students (Herring, 2010). Literature from the late 1990s tends to examine access to library information resources and services, information literacy instruction, and effective use of technology. The literature also identifies geographic isolation of the learner from fellow students, instructors, and institutional services, and the diversity of academic/physical settings for distance learners as concerns in the provision of distance library service. Literature after the late 1990s gives less attention to geographic isolation and the focus shifts to use of technology in delivering services and access to information.

In acknowledgement of these issues, much of the literature that guides and informs the practice of distance service librarians in academic institutions advocates
library service that minimizes barriers by providing timely delivery of materials, seamless access to library resources, information literacy and provision of pedagogically sound library instruction (Dewald, 1999; Johnson & Fabbro, 2013; Nichols, 2006; Van de Vord, 2010; Wolpert, 1998), along with effective use of technology in all aspects of service delivery (Collins & Veal, 2004; Dewald et al., 2000; Wijayaratne & Singh, 2010).


In their overview of LIS distance library services literature, Johnson and Fabbro (2013) emphasize that the philosophical standard of these services is equitable access to library resources and services. With this in mind, readers are directed to professional resources for best practices: library literature; the Distance Library Services Conference and its conference proceedings; various conferences held in the United States, Canada, and the United Kingdom; the ACRL standards of distance learning library services; and the ACRL Information Literacy Competency Standards for Higher Education (American Library Association, 2000).

Johnson and Fabbro (2013) reference North American literature, most of which dates from 2008 to 2011, and identify these core themes from the literature: connecting with the user (promotion of services, delivery, and assessment of services), access (resources/information), and information literacy (instruction, pedagogical approaches). The topics highlighted on these themes in their overview are primarily drawn from
descriptive anecdotal reports, but there are references to some research-based articles. Overall, their assessment of distance library services and its literature is positive, although they caution that while electronic resources improve access, it cannot be assumed that technology resolves all the information and research needs of distance learners, since some users, including those with disabilities, may struggle with technical as well as isolation issues. From their review two emerging trends stand out: the need to support diverse needs (such as those of international students and those with disabilities) in practice as well as research, and the recognition that the “boundaries between serving distance learners and on-campus students are blurring” (p. 241) bringing implications for practice. Publications investigating information seeking experiences of distance learners are not mentioned.

Reiten and Fritts (2006) analyzed 358 papers presented at 11 Off-Campus Library Services Conferences spanning a 22-year period from 1982 to 2004. The purpose of the review was to determine how the distance library services field had evolved. The papers were assessed against eight categories (based on the conference program tracks): Administration and Planning; Bibliographic Instruction; Distance Librarianship Education; Model Programs; Program Evaluation; Program Support Services; Reference Services; and Uses of Technology. They found the most presented category was Administration and Planning, with Uses of Technology second, followed by Model Programs. From their review, the authors concluded that the “base content does not seem to have changed tremendously over time, although there are new slants on content, such as the current focus on information literacy” (p. 405).
A recent assessment of distance library literature was conducted by Herring (2010) who used content analysis in her review of 472 research articles published from 1999 to 2009. To retrieve articles on the topic of distance library services, the author searched six databases in order to review publications and “determine key issues, major topics and trends in research, and to identify the leading journals publishing in the subject area” (p. 138).

She found the top three topics reported were access to services and resources (23% of the 472 articles) – followed by instruction (15%) with management of issues third (9%). Her assessment of research methodologies found that descriptive example (not defined, one assumes these are not research-based) was most frequently used (143 times), the survey approach was the second most frequently used (54), followed by mixed methods (32), case study (20), usage study (11), and quasi-experimental (10). Other methods such as literature analysis, historical research, content analysis, focus groups, meta-analysis, experimental, and qualitative were used 9 times and less. The author notes that over time, the descriptive example approach decreased while use of more diverse methodologies increased. In 1999, the descriptive example represented 80% of the articles reviewed and by 2009 this method had decreased to 33%. In 2009, after descriptive example, usage study represented 17%, while case study, mixed methods, and literature analysis represented 11% each.

In her analysis of leading journals, the author states that the 472 articles were retrieved from 123 journals and that eight of these journals published “ten or more articles on the subject during the study period” (p. 143). Given the strong connection with professional and scholarly development in distance library services and the Off-
it is not surprising that the top two journals were *Journal of Library Administration* (128 articles) and *Journal of Library and Information Services in Distance Learning* (31 articles). The other six journals with ten or more articles on the topic were: *Library Journal* (18); *Internet Reference Services Quarterly* (13); *Journal of Academic Librarianship* (13); *Electronic Library* (12); *Computers in Libraries* (11); and *Distance Education Report* (10). Her final comment notes that the distance library field has grown and expanded during the time period under study and with this maturity, the “complexity and sophistication of research methodologies reported” has increased (p. 144).

Distance library literature has developed, expanded, and matured since the 1990s with the exploration of issues related to practice, in particular instruction and information literacy; however, limited attention has been given to information seeking in the distance environment. Distance library literature can be described in the words used by Ritzhaupt et al. (2010) in their assessment of distance education research: “broad in scope and can be characterized as having few consistent and focused lines of inquiry in the research literature” (p. 57).

### 2.7.3 Distance library services –information literacy

Distance library literature identifies information literacy, typically supported through web-based tutorials, as instrumental to academic success for distance learners. Two descriptive reports, one by Lindsay (2004) who discussed design issues for two information literacy experiences, and the other by Brumfield (2008) who described two software applications (Camtasia and Snag It) with a pilot tutorial intended to help
distance learners understand searching strategies for a ProQuest index, are examples of how tutorials can be used in practice.

Web-based tutorials have also been the subject of evaluation as reported by Dewald (1999) who assessed 20 tutorials selected by the ALA Library Instruction Roundtable (LIRT), Somaza-Fernandez and Adadal (2009) who analyzed 180 tutorials, and by Su and Kuo (2010) who evaluated 37 tutorials. While reviews of tutorials can be useful for distance librarians in evaluating design and creating pedagogical standards, such assessments generally do not consider or report on the learners’ use and experiences with online tutorials and it is difficult to know from the assessments if distance learners find tutorials useful for their information seeking practices.

Recognizing the need for distance students to possess information literacy skills, in her 2010 quantitative study, Van de Vord investigated distance students to explore the relationship between information literacy and critical evaluation of information to determine the “factors that increase the likelihood of students evaluating the relevance, currency, reliability, completeness and accuracy of online information” (p. 170). Distance students in particular rely on the internet as their primary information source but they may not possess the skills to critically analyze and evaluate the information. Five hypotheses were formed: H1: media skepticism will positively associate with information literacy; H2: awareness of media effects will positively associate with information literacy; H3: greater online access will positively associate with information literacy; H4: greater access will positively associate with greater internet self-efficacy; H5: greater self-efficacy toward online information seeking will positively associate with information literacy (p. 172).
Data were collected by an online survey designed to determine “distance students’ information seeking practices and perceived information credibility evaluations in relationship to both their information and media literacy” (p.172). The survey was sent to 2281 distance students of a large university. Van de Vord reports that 363 students completed the survey; her participants were primarily upperclassman (88.2%); Caucasian (84.3%) and primarily female (77.5%) with mean age of 36. The author notes that a 7 point Likert scale was used to collect responses on media effects, skepticism for advertising, information literacy, and self-efficacy for information seeking.

Van de Vord’s key findings suggest that instruction in media literacy would positively impact information literacy and that internet access was found to “significantly and positively impact with information literacy, as well as internet self-efficacy” (p. 174). Van de Vord recommends the integration of information literacy instruction into online courses and suggests that incorporating information literacy activities would further strengthen information literacy skills.

2.8 Context of Information Seeking Research for this Study

While information seeking research has investigated information seeking behaviour in a variety of settings with various populations, studies conducted in the context of the distance environment have been limited. As literature from the distance education and the LIS disciplines emphasizes the distinction between the distance/online and the on-campus face-to-face learning environments, reviewing LIS literature investigating information seeking in the distance environment was of primary interest to this study.
2.8.1 *LIS research on the information seeking experiences of distance learners*

Relevant studies investigating information seeking experiences of distance learners are those conducted by Boadi and Letsolo (2004), Brahme and Walters (2010), Byrne and Bates (2009), Morrison and Washburn (2004), Dow et al. (2012), and Mussell and Croft (2013) who identify information seeking experiences and preferences as well as challenges. These studies will be reviewed first, followed by a discussion of the Collins and Veal (2004) study which focused on issues of anxiety in accessing information.

Although conducted in different countries, Lesotho (Boadi and Letsolo, 2004) and the United States (Morrison and Washburn, 2004), the findings from these two studies indicate that the distance students shared similarities in their information seeking experiences, difficulties encountered, and preference for particular information resources. Boadi and Letsolo (2004) investigated the information needs and information seeking behaviour of distance students of the National University of Lesotho. Data were collected through questionnaires, interviews and focus groups. Participants were recruited from a population of 783 distance students enrolled in the Institute of Extra-Mural Studies (IEMS) program, eight instructors and two librarians during the 2002/2003 academic year. Random sampling was used to select distance learners; a total of 79 individuals were given questionnaires with a return of 54 questionnaires, and purposive sampling was used to select learners to participate in focus group interviews. The eight instructors were given questionnaires and the librarians were interviewed face-to-face. Unfortunately, few details are given about the methodology, as neither the survey instrument, nor the interview or focus group questions were made available. From the results, it appears that the questionnaires asked for demographic information (gender,
age, occupation, marital status, employment, residence, transport, salary, and personal spending on information obtained), while questions asked in the focus groups and interviews related to information needed by the students to support learning tasks, types and sources of information they preferred from the libraries used, and satisfaction with sources.

The researchers found that four factors – isolation from campus (including isolation from lecturers / tutors), and access barriers to on-campus resources – adversely affected information seeking behaviour because they prevented students from obtaining useful information and forced them to use alternate sources. To support learning tasks and assignments, the distance students preferred information that was current, accurate, timely, and easily available. The students encountered obstacles such as inaccessibility of materials (caused by their inability to travel to the library or lack of materials for students), unresponsive library services (such as inconvenient hours), and lack of available electronic resources. Some respondents indicated that these obstacles required them to rely almost exclusively on course materials as well as to use information sources (friends, colleagues, personal collections, newspapers, or school libraries) that were readily available but not necessarily the best or most accurate resources. In some instances, resources had to be purchased by the student to satisfy the information need.

The students in this study relied heavily on print sources available primarily through physical access to the library. The inaccessibility of electronic resources was a serious disadvantage for these distance students, so the researchers recommended increased availability of electronic resources to enhance access. Access to information and resources was also impeded by inconvenient library hours.
Morrison and Washburn (2004) used a focus group methodology to investigate the information seeking behaviour of and library services use by Utah State University distance students. The researchers held two series of focus groups, conducted one year apart, and supplemented data from the second series with a questionnaire. They found that the distance students tended to rely on the web for information, but students also turned to alternate sources such as family or friends. Preferred information sources included the web, newspapers, books, course materials, other students, articles, and the library catalogue. Library services used included document delivery, assistance provided by librarians (the preferred method of contacting the librarian was face-to-face, followed by phone, then e-mail), and electronic course reserves. The authors concluded that distance students access sources that are familiar and convenient, and have a preference for information that is quickly and immediately accessible. Barriers encountered and acknowledged included lack of understanding and familiarity with searching and searching strategies, uncertainty with how to use various library resources (databases) to find information, finding the library web pages confusing, and lack of an on-site academic library with course-relevant resources. This last barrier resulted in students relying on other libraries whose collections often lacked those resources.

In the Byrne and Bates (2009) study set in Ireland, the researchers conducted an investigation with Bachelor of Business Studies distance learners to determine the main sources of information used, their perceptions of the virtual learning environment (VLE, course management software system), and if there was evidence of collaborative information behaviours. Data were collected by an online questionnaire sent to all 136 students; 55 responded (40% response rate). The 26-question survey asked for
demographic details, study habits, use of information sources (the library and library resources, VLE, internet) and collaborative information practices. Of the respondents, 52.7% were female and 47.3% were male. The authors note this breakdown is representative of students in the course: 52% female, 48% male.

With respect to sources of information used by the participants, the authors found that the participants preferred to conduct searches from home and while both print and electronic resources were used, there was a preference for electronic sources. When conducting an information search, the participants primarily used the internet, followed by electronic library resources, and course content (VLE) was ranked third. It was found that the participants accessed information from journals and course textbooks, as well as informally from lecturers, work colleagues, and classmates. From this finding, the authors conclude that students value the library and its resources “even though it has been overshadowed somewhat by the internet” (p. 137).

Students reported they were generally satisfied with the content available through the virtual learning environment (VLE). However, participants indicated issues with navigation, and the confusing array of resources and services available through VLE, such as e-mail, and library information resources. The authors note that this confusion should be addressed and the “distance students surveyed are not as technologically literate as one might assume (particularly when they move beyond Google)” (p. 138). The authors suggest the confusion with choice of resources and navigational issues of those resources is evidence of library anxiety and conclude that targeted support would help students use library resources more effectively. They also emphasize that librarians could take on a more active role to be available and more visible to students.
With respect to collaborative information seeking practices among the study participants, evidence of collaboration and information sharing with their peers was found. The authors conclude that collaborative practices among distance students could be strengthened through various activities in the VLE, such as discussion groups or blogs. They also recognize that librarians can have a stronger role in supporting collaboration by including more instruction and working more closely with instructors.

Brahme and Walters (2010) conducted a qualitative case study using grounded theory to research the “differences in information seeking behavior and research resources used between doctoral students enrolled in a distance learning program and doctoral students enrolled in residential educational programs” (p. 487). The research sub-questions were related to searching practices, barriers, searching success, and search assistance. Participants in the study were ten distance doctoral students and ten residential doctoral students, all of whom were preparing or had just completed the literature reviews for their dissertations. Data were collected through interviews conducted by phone, chat, or Skype.

Their primary findings were that distance students preferred to contact librarians rather than colleagues, expressed less confidence than residential students about their research skills, experienced feelings of isolation, and expressed a strong preference for using the physical library. Distance students were also more likely to seek research assistance from faculty, desired easier contact with librarians and were more distressed than residential students about the lack of assistance from faculty. Distance students were less likely to buy books for their literature reviews. The authors concluded that the information seeking experiences of the doctoral distance students differed from those of
residential students during the process of completing their literature reviews. Although advancements in technology provided ease of communication and access to research resources, the researchers determined that the educational experiences of distance students are distinct from the experiences of residential students. The grounded theory formed as result of this study is: “the students’ separation from the university campus and physical resources, including faculty, librarians and colleagues, results in certain predictable reactions and experiences” (p. 509).

Two recent user-centered studies that explored information seeking behaviour of distance/online students are by Dow et al., (2012) who explored low-use and non-use of libraries, and Mussell and Croft (2013), who investigated discovery layers and information seeking experiences of distance students.

Two hundred and thirty-eight graduate students (a 16% response rate) of which 74% were women and 26% were men, participated in the Dow et al. study. Data were collected by electronic survey (238 participants), a follow-up online survey (34 participants), and semi-structured interviews (13 participants). The researchers acknowledge that 38% of the participants were MLIS students which may have had an impact on the findings; that is, participants from this discipline have searching expertise and skills that the rest of the participants may not possess. This study found that participants relied on internet searches (Google, Facebook, library websites) and resources provided by instructors. Library use (physical and virtual) amongst participants ranged from never (6%) to once a month (32%). Participants indicated that they rarely asked for assistance from librarians and 65% had not taken part in library orientation sessions. Internal and external barriers to accessing information were identified. Internal
barriers included: lack of time, confidence, technical skills and language. External barriers were: difficulty in evaluating information, confusion with search terms, and technical issues (broken links). Low-use and non-use of library resources and services were related to the combination of these factors: reliance on information from the instructor, not asking for assistance and/or not recognizing the need for assistance, and barriers. The researchers concluded their participants acquired information through social and online networks rather than use of library resources, and that they appeared to apply the principle of least effort when searching for information. They also concluded that participants’ difficulties with information searching were due to low information literacy skills, a lack of support during information seeking, and not asking for assistance (p. 280).

The Mussell and Croft (2013) study conducted at Royal Roads University, Victoria, British Columbia (a primarily online institution) investigated student use of and feelings about discovery layer resources. Discovery layer software provides a federated search feature for users allowing them to search and access a broader range (monographs, periodicals, reports) of a library’s collection by entering search terms in a single search box, rather than performing multiple separate searches through the catalogue and the databases. The Royal Roads University Library integrated the Summon discovery layer in January 2011 and the researchers were interested in understanding use of this feature. Data were collected from Royal Roads University students, the majority of whom are online students, with an online survey tool of 21 questions. The survey was e-mailed to all students enrolled in credit courses and 1,038 students participated, a response rate of 23% of the 4500 student enrollment. Data were also collected from usage statistics of
the discovery layer, databases, library website, Serials Solutions, and the LibGuide
tutorial usage. Their results showed that Google and/or Google Scholar were the
preferred first choice for information sources (42%), followed by library databases
(26%), and next by the discovery layer (22%). When asked to provide their second choice
of information source, participants indicated Google Scholar (41%), followed by library
databases (39%), Google (26%), and the discovery layer (24%). The top three most
helpful information sources were Google, Google Scholar, and Wikipedia, followed by
the discovery layer. Participants identified specific challenges related to searching
strategies: narrowing of search terms, use of terms, navigation issues, lack of time for
searching, not knowing how to begin and manage searching, and various technical issues.
When the researchers analyzed usage statistics data, they found that database usage
showed a slight increase after Summon had been launched, while online tutorial
resources showed low use. The researchers concluded that Summon appeared to have
improved the searching experience for students and that the participants considered
library databases were helpful to their searching uses and information needs. They also
observed that Google is frequently used with library information resources during the
searching process.

2.8.2  Barriers, challenges for distance learners and access to information

Academic/physical settings can vary for distance students who access
synchronous or asynchronous courses from home, work, or classrooms/labs of local
libraries, community centres, schools, or colleges. Such diverse learning environments
may not offer the same resources in the same manner as on-campus situations. While it
must be noted that the access and interaction experiences of the on-campus student in
many respects emulate those of distance learners, nonetheless the factors of distance, time zones, isolation, and diverse settings create differences and barriers for distance learners that, according to the distance education and distance library services literature, set their learning and information seeking experiences apart from those of the on-campus learner.

Although distance library literature acknowledges these limitations for distance learners, the discussion primarily focuses on barriers to service issues (Brumfield, 2008; Nichols, 2006; Van de Vord, 2010; Wolpert, 1998). There is limited exploration of different types of barriers (such as the situational, institutional and dispositional barriers noted by Wiesenberg, 2001, and Potter, 1998) that may present challenges for distance learners. Only some distance library services literature considers barriers that might hinder access to information, or affect information seeking and information seeking behaviour.

The Collins and Veal (2004) study focuses on library anxiety levels as a predictor of attitude toward use of the internet and less as a predictor of information seeking behaviour. Their participants (143 Master of Arts in Education distance students) completed two questionnaires: the Library Anxiety Scale (LAS) developed by Bostick, and Attitude Toward Educational Use of the Internet (ATEUI) developed by Duggan, Hess, Morgan, Kim and Wilson (as cited in Collins & Veal, 2004). The purpose of the study was to investigate factors associated with library anxiety and how those factors might predict “attitudes towards educational use of the Internet” (p. 6). Unfortunately, because the authors neglect to define the parameters of “educational use of the Internet” it is not clear whether this refers to the use of licensed indexes accessible through library sites, or web searching through use of Google or other search engines. The participants,
most of whom had returned to school after an absence from post-secondary education, ranged in age from 20 to 59, were employed, attended school part-time, and the majority (71.2%) were female. The authors note that previous research on library anxiety has examined on-campus settings, and while the research is generally applicable to distance learners, adult learners encounter challenges with physical access to library resources. The authors also comment that previous library anxiety research suggests that library anxiety can affect “progression in the information search process by hampering their cognitive processing in the areas related to organization and creativity (i.e. divergent thinking)” (p. 6).

Collins and Veal found that levels of library anxiety were related to affective barriers such as self-perception of ability to access library resources, as well as to mechanical barriers, such as use of equipment. They note that those with the highest levels of anxiety with knowledge of the library were likely to have the least positive attitudes about the educational use of the internet. They indicate that these research results, along with findings regarding anxiety about computer use, perceptions associated with the amount of available time to search for resources, and the need to master multiple search methods were consistent with related research. They state that their findings “support the inclusion of knowledge-based instruction about the process of accessing course-related information from various databases, along with hands-on computer instruction designed to develop skills in accessing resources” (p. 12). This conclusion is in keeping with research (Mellon, 1986; Kuhlthau, 2004) advocating library instruction as a means to minimize anxiety.
2.9 Common Themes in Reviewed Literature

Themes expressed in common across the distance education and distance library literature reviewed include: a) concerns with equitable access; b) distance learning environment being distinct from the on-campus face-to-face learning environment and offering flexible options for further education; c) the critical role of the institution in support of a positive and successful academic experience; d) use of technology; e) characteristics of the distance learner that contribute to academic success; f) the advantages as well as the challenges of distance learning; and g) the gender representation: more women than men are engaged in distance learning.

The literature from both disciplines emphasizes that distance learning is a growing phenomenon and is a viable option for equitable access to education for many students who may not be able to pursue higher education. The critical role of the institution (either as a whole, or the various services and departments: library services, student support, instructional technology, instructors) in support of a successful academic experience for distance students is an evident theme and is noted in the introductory sections of most publications. From this philosophy of academic success everything else flows: use of technology, learning skills, pedagogy, policies, practices, philosophical position of service provision, collaborative learning, and access to services and resources in the delivery of quality distance education. This equitable access theme is a strong reflection of the broader context of the distance learning discourse across several disciplines, and in particular is supported by the findings of Potter (1998) and Wiesenber (2001) in two Canadian studies that explored the advantages, disadvantages, and barriers of the distance learning environment.
All the studies within the literature reviewed emphasize the importance and the significance of the use of technology to support the academic experience (for all students, distance or otherwise) as well as its instrumental role in distance education’s effective delivery. Ways in which technology supports learning include: delivery of courses and/or course material; provision of access to resources, services and information; and facilitation of contact with instructors, librarians, library staff and fellow students. The use of technology is also noted for making the distance learning environment more flexible in overcoming barriers of isolation and distance.

While the advantages of distance learning are many, including flexibility, greater educational opportunities, and self-paced learning, there are acknowledged challenges associated with distance learning such as distance, isolation, difficulties with technology, and concerns with access to appropriate resources, instructors, librarians and other students. These are themes that both the research and anecdotal literature explore in depth: discussion usually pertains to minimizing those barriers as much as possible to enhance the learning experience. At the same time, most studies note that students must also take responsibility for their education and that successful distance learners take control of learning and are self-directed, persistent, self-regulated, and self-motivated. Successful distance learners are also able to set goals, self-advocate, and manage time and technology effectively.

Literature from the distance library field echoes many themes discussed in the distance education literature with respect to the learning environment and learner characteristics. The literature also emphasizes service delivery, promotion of services, access to library information resources, and library instruction and information literacy.
Most articles reference the ACRL standards of distance library services and the ACRL standards of information literacy.

The literature from both disciplines emphasizes the importance of assessment in the areas of service, pedagogy, communication with the stakeholders, and use of technology to continue strengthening distance learning for distance learners.

2.10 Strengths and Weaknesses of Reviewed Literature

While distance education has a long history in North America, the research literature from the distance education field is relatively recent and the literature from the distance library service field is even more recent. Despite this, there is much literature from both disciplines that provides foundational principles, theories, standards, and models that inform practice and contribute to the body of research. Those who are new to distance learning, either as educators, instructional designers, or distance services librarians, have much to draw on for guidance.

The strength of the distance education literature is its inspiring, visionary, and innovative treatment of topics – its focus on the positive attributes of the distance learning environment, the philosophical and pedagogical principles, and the advantages of distance learning in extending education to those who would not otherwise be able to pursue further education. Certainly much of the literature profiled in the Handbook of Distance Education (Moore, 2013) reflects these strengths in the discussion regarding use of technology, teaching practices, supporting learners, and reaching out to diverse learners.

The weakness of the distance education literature, in the words of Linda Black (2013), is that it consists primarily of “descriptive, self-reports” (p. 6) and its scholarship
lacks rigor. In the words of Ritzhaupt et al. (2010) distance education literature is characterized as broad in scope but with “few consistent and focused lines of inquiry in the research literature” (p. 57). This state of the literature however is somewhat understandable given the dramatic technological explosion of the internet which brought rapid and dramatic changes to the distance learning environment. As a result, distance education literature was produced quickly in response to the challenges and opportunities in the distance learning environment, but the literature was inconsistent in scholarship. There does, however, seem to be a shift towards more rigorous scholarship as evidenced in Moore’s (2013) *Handbook of Distance Education*.

Although the distance education literature discusses pedagogy, instructional design, learning communities, and learner characteristics in considerable detail, the attention paid to the information needs and experiences of distance learners is limited. While much literature focuses on how the distance student learns and the quality of what is learned, most studies neglect to include the *information* that distance learners require to support their learning. Studies within the distance education literature fail to acknowledge and investigate how students access information, what information resources are required, and who can provide assistance with their information needs. There is an assumption that since the internet can deliver “everything”, the required access to and assistance with information is also readily available on the internet. There also seems to be an assumption that distance learners are technologically adept and familiar with searching for appropriate academic information resources. The failure to include the distance librarian in pedagogical discussions of distance education and the
practice of distance delivery is a weakness in the discipline and as a consequence, a gap in the literature.

Much that is said about the distance education literature can also be stated about the distance library services literature. Prior to 1970, there was very little distance library literature, probably due to the static nature of distance education as a correspondence school model. Library involvement in this model was primarily that of responding to written requests for materials by collecting and mailing the items to the distance learner. As distance learning rapidly changed and grew exponentially in response to the technological explosion, the literature expanded as well. Although there is a great deal of LIS literature related to distance library services it primarily focuses on the anecdotal and lacks focus and rigour.

A survey of research-based LIS literature specific to this study reveals that the focus has been primarily on information literacy with very little attention paid to distance learners’ information seeking experiences. Further, the LIS studies reviewed that examine information seeking are not built on existing information seeking theory.

2.11 Summary

The literature related to the distance learning environment including distance library literature acknowledges and recognizes that the distance learning experience is challenging, and quite different from the on-campus experience. In assessing the distance library services literature in particular, it is evident there are gaps in research investigating the information seeking experiences of distance and online students.
Chapter 3 Methodology

3.1 Introduction – Research Approach

This exploratory qualitative study is built on cognitive user-centered Library and Information Studies (LIS) information seeking research. The strength of an exploratory approach is the ability to explore a topic about which very little is understood in order to provide greater insight and build understanding and knowledge about a phenomenon (Babbie, 1999). A qualitative inquiry supports and complements the purpose and goal of this study and reflects the interpretivist stance which seeks to understand how individuals make sense or make meaning of their world (Babbie, 1999; Maxwell, 2005; Williamson, 2002). Qualitative research emphasizes the importance of exploring a situation in the participants’ natural settings, thereby reflecting more authentically the participants’ perceptions. Qualitative researchers are able to collect much rich data that can elucidate and interpret how people perceive, understand or make meaning of their day-to-day life (Creswell, 2007; Maxwell, 2005). Another advantage of qualitative research is that it provides the responsive flexibility to explore emerging data and ideas to greater depth and attention as they surface during the study (Maxwell, 2005; O’Connor, 1996).

The conceptual framework of a study guides the investigation, provides a concept or model for the study, and gives a tentative picture of “what is going on with these things [phenomena under investigation] and why” (Maxwell, 2005, p. 33). The framework is informed by “concepts, assumptions, expectations, beliefs, and theories that support/inform the research” and is part of the research design (p. 33). The theoretical framework is based on a philosophical perspective that informs the research approach
In this study, conceptual and theoretical frameworks were foundational to the research design and analysis process.

3.2 Research Design

3.2.1 Research method

The research design for this study was grounded on ideas associated with hermeneutic phenomenology. There is no specific research method associated with hermeneutic phenomenology; however, its philosophy suggests a research approach and research strategies that are appropriate to its principles (Van Manen, 1997). Ideas associated with hermeneutic phenomenology that influenced this study were: a) the participants are the experts and knowledgeable informants of the phenomenon; b) the essences and diversity of the experiences can be explored by entering the participants’ field of perception; c) the phenomenon experienced is related to and based on the experiences of the life-world structures; and d) the participants’ experiences and reflections elucidated “an understanding of the deeper meaning or significance of an aspect of human experiences in the context of the whole human experience” (Van Manen, 1997, p. 62). The conceptual framework provided the focus for this study and was based on the concepts related to information seeking theory: a) making sense of the representational structures of information; b) making sense of the interactive relationships between information and information seeking; c) challenges, barriers, strategies, linguistic meaning; and d) transformative nature of information.

Guidance related to methods and strategies for recruitment and data collection was taken from Creswell (2007), Kvale (2009), Maxwell (2005) and Van Manen (1997). Maxwell states that the methods component of qualitative research is comprised of four
elements: a) relationships established with study participants; b) selection of settings, participants, times and places of data collection; c) data collection methods; and d) data analysis approaches and techniques (p. 4). The guiding concepts noted above were applied to a research attitude and approach that was discovery-oriented, sensitive, reflective, and attentive to observing the subtleties and nuances of the everyday lived experience of the phenomenon (Van Manen, 1997).

3.2.2 Purpose and goal of study

In this study, information seeking is both the object and the source of study. The purpose of this study was to: a) investigate information seeking experiences from the perspective of the distance/online student; b) describe and interpret how the experiences appeared in the information behaviour; c) describe and interpret the underlying themes and contexts of the experience; d) elucidate the barriers that hindered accessing and seeking information; and e) describe and interpret strategies employed in information seeking experiences.

The goal of this exploratory study was to build on existing information seeking research and contribute to the under-investigated phenomenon of the information seeking experiences of the distance /online student. By addressing this under-studied phenomenon, a secondary goal was to provide insight into the experiences, inform practice and offer opportunity for further research.

3.2.3 Research questions

The context, focus and assumptions that guided and informed the research questions for this study are based on literature reviews of distance education and LIS
literature, the topic of study, the conceptual and theoretical frameworks of this study, and the tradition of inquiry selected for this study.

Assumptions underlying the research questions were: a) distance/online students are the knowledgeable informants of their own information seeking experiences; b) the distance/online learning environment is different from the on-campus learning environment; c) among the participants there may be a variety of shared and diverse experiences that may be revealed and are relevant to this investigation; d) while there are certain advantages to distance learning, distance/online learners can also experience disadvantages, marginalization, and encounter challenges and barriers that make their learning experiences and information seeking experiences different and distinct from the on-campus learner; e) distance/online learners may employ a variety of strategies that may be different or distinct from the on-campus learner; f) information seeking experiences include seeking, accessing, retrieving, and using information through the library, other sources, the institution, or sharing with fellow students either through purposeful searching or incidentally; and, g) the process of information seeking for distance/online students may be learned and may be alterable; they may learn and may apply strategies to information seeking that may alter the information seeking approaches and thus alter the information seeking experiences and behaviour.

Based on this context and assumptions (as discussed previously within the introduction), the main research question for this study is: From the perspective of post-secondary distance/online students, what are their experiences with information seeking? Within this main question are four related sub-questions:

- What are the underlying themes and contexts of the experiences?
• How are the lived everyday information seeking experiences of the distance / online student manifested in their information seeking behaviour?

• What, if any, are the barriers that hinder distance/online students from finding, accessing, encountering, using, and interacting with information?

• What strategies are employed in finding, accessing, using and interacting with information?

3.3 Ethics Approval

This study received ethics approval in October 2009 from the Behavioural Research Ethics Board of The University of British Columbia (UBC) and from the Research Ethics Board of University of Northern British Columbia (UNBC).

3.4 Recruitment

As this was an investigation of the information seeking experiences of post-secondary distance/online learners, post-secondary students engaged in distance/online learning were targeted as subjects for recruitment. As noted in Chapter One, technology-based distance/online learning has altered the delivery of distance learning, and as a consequence, distance/online learners may or may not reside at a geographic distance from the educational institution. The University of British Columbia (UBC), Vancouver, British Columbia, and the University of Northern British Columbia (UNBC), Prince George, British Columbia were selected for recruitment because both institutions deliver distance/online learning programs and therefore have the population base for potential participants. The libraries of both institutions provide library services and support for distance/online learners. The offices coordinating distance/online learning at both institutions were willing to disseminate recruitment information. These institutions were
also selected for the practical reason of the researcher’s residential location. In keeping with the tradition of inquiry, the individuals who participated in this study had experienced the phenomenon being investigated, as Creswell (2007) notes this is key to phenomenological research. It was expected that approximately 15 to 20 distance/online learners would participate (Creswell, 2007; Kvale, 1996, 2009).

Participants of this study met the following criteria: a) registered as a distance student and/or registered in a distance and/or online course(s); b) student of The University of British Columbia or University of Northern British Columbia; and c) resident of Canada; due to financial constraints, there were limitations to travel. Participants also had to be willing to: meet in a comfortable, natural setting that lent itself to an interview; participate in the video-taping of an information seeking event; provide reflexive journals; and respond to a follow-up interview question. Additional determining factors in recruitment were time and the financial constraints imposed by travel expenses.

3.4.1 Recruitment procedures

Recruitment was conducted through UBC and UNBC from November 2009 to April 2010. Invitations to participate in a study in the form of a recruitment flier (Appendix A) and a recruitment e-mail (Appendix B) were distributed through two offices of distance learning at UBC: Office of Learning Technology (OLT) and the office of External Programs and Learning Technologies (EPLT). Staff in these offices created links to recruitment information in VISTA, UBC’s distance/online learning course management software platform. When students logged onto their course(s) they were able to click on a link to the recruitment information. Staff in the EPLT office forwarded my information to instructors of the EPLT program teaching online courses. A link to the
recruitment flier was created from the UBC Library Extension Services web page – which is UBC’s Library Service in support of distance/online learning. Recruitment information (Appendix C) appeared in the UBC student newspaper *Ubyssey* in print and electronic formats.

The same recruitment information (flier and e-mail) was distributed through UNBC’s Regional Services Department – the department responsible for distance/online learning, and three of UNBC’s regional offices/campuses based in Terrace, Quesnel and Fort St. John, BC. Recruitment information (flier and e-mail) was also sent directly to four instructors delivering distance/online courses and to the offices of Centre for Teaching, Learning, and Technology (CTLT) for distribution to instructors and students enrolled in distance/online courses. A link to the recruitment flier from UNBC’s library homepage was added.

Response to the recruitment information was most successful through UBC’s VISTA course management software, and UNBC’s Regional Services, departments and campuses. Recruitment was not at all successful through the student newspaper or links at UBC and UNBC libraries.

3.4.2  Contact with potential participants

Interested individuals contacted me via e-mail. I responded via e-mail, thanked them for expressing interest, and asked if they wished to receive an information package. Information packages consisting of the flier, a Contact Letter (Appendix D) and Consent Form (Appendix E) were mailed or sent via e-mail to those who asked for a package.
3.4.3 *Number of participants*

As this was a hermeneutic phenomenological inquiry, Kvale’s (1996) advice on the number of participants was followed, along with the suggestion that “new interviews might be conducted to the point of saturation, where further interviews yield little new knowledge” (Kvale, 1996, p. 102; and Kvale, 2009, p. 113). His suggested guideline for the number of participants for interviews in a hermeneutic phenomenological inquiry is a range from 5 to 25 (Kvale 1996, 2009). Of the 28 individuals who contacted me, 17 agreed to participate, five did not respond to my e-mail, three declined to participate for reasons related to scheduling difficulties, and three did not meet the criteria.

3.4.4 *Participant honorarium*

In acknowledgement of time given and as a token of appreciation and thanks, participants of this study were given a Starbucks gift card valued at $10.00 upon completion of the interview and observation components of this study. Upon submission of the reflexive journal and the follow-up interview question at the completion of the study, again in acknowledgement of time given and as a token of appreciation and thanks, participants of this study were given another Starbucks gift card also valued at $10.00. Participants’ names were also entered in a draw for an opportunity to win an iPod. Upon completion of data collection, a name was drawn from a hat and the iPod was awarded. Had any participants withdrawn from the study at any point, they would have received the gift cards and been entered in the draw for the iPod. No participants withdrew from the study.
3.5 Data Collection Procedures

3.5.1 Data collection approach

Consistent with the tradition of inquiry, this study employed multiple methods of data collection through open-ended semi-structured interviews, observations, field notes, and participant reflexive journals. Interviews and observations were conducted in settings that were natural, comfortable, familiar, and safe for the participants and conducive to the sharing of experiences, as recommended by Creswell (2007), Kvale (1996, 2009) and Maxwell (2005). See Appendix F for the Open-Ended Semi-Structure Interview Protocol, Appendix G for the Observation Protocol, and Appendix H for the Reflexive Journal Protocol. The interviews were recorded with a Sony digital recorder and the observations were recorded with a Flip HD video camera. These data were uploaded onto a laptop.

I found it too distracting to take notes during the interviews, so field notes about the interviews and the observation were made following each meeting with an informant. As the study progressed, field notes consisted of reactions and comments as a record of my thoughts, ideas, reflections and observations. These notes provided helpful context during the data analysis process.

The data collection approach was successful as it enabled me to view the life-world of participants’ experiences by entering their field of perception. The informants were forthcoming, expressive, and candid with their responses. The multiple methods of data collection along with natural, comfortable settings encouraged the informants to tell the stories of their experiences and yielded an abundance of thick, rich data. I found the multiple methods were helpful for corroborating data to “deal with validity threats”
(p.94), which as Maxwell notes regarding multiple methods, lend credibility to the discussion of my findings.

3.5.2  *Pilot testing*

Maxwell (2005) recommends pilot testing the interview guide with individuals who are similar to the intended interviewees. This was accomplished through sessions with four non-participants to test interview questions. The pilot tests showed how much information the interview questions would elicit as well as how the interview as a whole would flow as a natural conversation. The sessions revealed that the wording and structure of the interview questions worked very well, so only very minor changes in phrasing were made for clarification. Once the interview process began, the interview approach and questions were successful and no further changes were needed.

A trial run with the recording equipment with two non-participants was conducted to test the observation procedures of data collection and to ensure my familiarity with the equipment. There were no technical issues with the equipment during any of the interviews.

3.5.3  *Interview settings*

Once individuals received the information package and confirmed they wanted to participate, arrangements were made to meet. Participant interviews took place at mutually agreed upon locations that contributed to the comfort, safety and confidentiality of the informants. About two-thirds of the interviews took place on the UBC campus in areas that provided privacy and comfort, one took place in a public library, one took place at a UNBC Regional Campus, one took place in a participant’s home, and two took
place in my office at UNBC. All locations had internet access for the observation portion of data collection.

At the time of the meeting, the informant and I exchanged casual remarks that served as introductory procedures to set the informant at ease. The study details, data collection procedures, Contact Letter (Appendix D) and Consent Form (Appendix E) were reviewed and participants were invited to ask questions. Once both copies of the Consent Form were signed and the equipment was tested the interviews proceeded.

Upon completion of the interview portion, data collection moved to the observation portion. Breaks were offered to the informants at this point, but most elected to continue the process.

At the conclusion of each meeting, and following a debriefing (during which the recorder was turned off), participants were given the information needed for the reflexive journal portion of the data collection and given one gift card in appreciation for their participation. A second gift card was sent when data collection was complete. When all the interviews had been conducted, a name was drawn for the iPod and it was sent to the winning participant.

3.5.4 Interview approach, structure, and design

The interview approach, structure, design and process were influenced by strategies associated with hermeneutic phenomenology and the conceptual framework, and incorporated advice and guidance from Maxwell (2005), Kvale (1996, 2009), and Van Manen (1997). A phenomenological interview approach focuses on the life-world and is receptive to participants’ experiences with the intent to search for essential meanings in the descriptions. In the hermeneutic interview approach conversation and
text are pivotal in order to interpret meaning central to the theme (Kvale, 2009). The interview approach and design were structured to draw out details from the participants in order to describe and interpret the information seeking experiences.

Qualitative interviewing is a flexible way to gather data about a particular phenomenon. The interview structure for this study was flexible because of the intention to explore themes and collect descriptions of situations central to the life-world of the participant. The interview was also designed to be open to changes in insights, contradictions and new phenomena. The semi-structured interview was designed to function as a natural conversation for the purpose of “exploring and gathering experiential material” (Van Manen, 1997, p. 66). The natural conversation served as both a source and resource to enhance a rich and deep appreciation of the phenomenon.

Maxwell’s (2005) advice about interview questions as a “means to answering your research questions” and more than a matter of “translating the research questions into interview questions” (p. 92) was applied when designing my interview schedule. The questions were influenced by the research questions, purpose and goal of the study and from what I anticipated (after 30 years of professional experience) would work effectively to elicit data.

The interview questions included these types: introductory, indirect, direct, probing, specifying and clarifying (See Appendix F). The questions were framed on themes related to distance/online learning and information seeking for the purpose of elucidating the lived experiences from the perspective of the participants and structured so that questions naturally flowed from one theme to the next. This approach was conducive to creating a natural conversation that encouraged participants to easily and
comfortably share their stories, feelings and opinions about their personal experiences with information and information seeking.

3.5.5 Bracketing foreknowledge and use of foreknowledge

Van Manen (1997) states that bracketing, also referred to as reduction by Van Manen and Kvale (2009), is the suspension of one’s beliefs, expectations, and private feelings in order to be open to the phenomenon. While a phenomenological approach attempts to bracket foreknowledge, Kvale notes that with a hermeneutic interview approach there is an “emphasis on the interpreter’s foreknowledge of a text’s subject matter” (p. 50).

For the purpose of this study my practitioner knowledge of libraries and my direct experience with the distance library environment are understood to represent foreknowledge. In keeping with a research attitude associated with hermeneutic phenomenology, bracketing (setting aside, suspending) of foreknowledge and use of (drawing on) foreknowledge were part of the interview approach. Both perspectives were used to focus on the life-world and the experiences of the participants. During data collection it was appropriate to bracket my foreknowledge while at other points foreknowledge was useful for drawing further details from the participants that might not have otherwise been revealed. I attempted to resolve this contradiction by a heightened awareness of when my foreknowledge came into play, and choosing to apply it only when additional important information from participants appeared to be forthcoming.

Because of the stated assumption that the participants are the knowledgeable informants of the experience, bracketing of foreknowledge was appropriate. That is, I remained neutral and refrained from imposing or directing participants by adding
comments based on my professional expertise. I found that assuming a position of naiveté with introductory and open-ended questions, or when moving into new themes or topics encouraged participants to provide candid responses. This approach built trust with the informants and when responses to certain interview questions, such as those related to interactions with librarians, were particularly candid with no evidence of self-censorship, I was confident I had successfully bracketed foreknowledge.

At certain points during the interview process, foreknowledge of information seeking behaviour, information seeking theory, the distance learning environment and distance library services was useful in prompting or probing for further information or specific details that contributed to the description and clarification of the life-world experiences of the participants. Rather than using my knowledge to make statements of assumptions, I would use my awareness to frame deliberately naïve questions to probe and encourage participants to open up about the experiences. Use of foreknowledge in this way was appropriate because of the stated assumptions underlying the research questions of this study, as well as the stated purpose and goal of this study which are to elucidate, understand and interpret the information seeking experiences of distance students and build on existing information seeking research. The interview approach and design were effective and the interviews unfolded as natural conversations that were relaxed and comfortable but at the same time focused.

3.5.6 Interview debriefing

Upon completion of the interview and the observation, a debriefing took place to bring closure and to provide an opportunity for participant feedback, questions, and
further comments. During debriefing, the recorder was turned off and participants were invited to share comments and ask questions.

Participant comments during the debriefing were just as candid and forthcoming as responses during the interview. Typical comments included variations of “this was fun”; “I enjoyed this”; “I’m glad I participated”, while other comments were more reflective “I’m going to think about this a lot more now that we’ve talked about this”; “you’ve given me a lot to think about”; “it was interesting talking and thinking about and putting it [the process of searching for information] in words – I hadn’t really thought about it before”.

3.5.7 Interview summaries

To ensure that I had accurately captured what was stated in the interviews, summarized interviews were sent to each participant asking for feedback and/or concerns. The summaries, single spaced, were four to five pages long. No participants responded with concerns about the summaries; two responded that their interview summaries were an accurate reflection of what they had said.

3.5.8 Interview saturation indicators

Interviews were conducted to the point of saturation; however, to be open to new information emerging, indicators of saturation were not pre-determined, but rather became evident as interviewing progressed. By the time I had interviewed the thirteenth participant, I reviewed the data collected and debated whether saturation had been reached. I continued interviewing, however, because I was not convinced I had reached saturation and I knew that some additional informants who had expressed interest in
participating in the study might offer diversity and new insights. By the time I conducted the seventeenth interview, I was confident that saturation had been reached.

Indicators of saturation included consistent responses with very little variation or new information emerging to certain questions. This was particularly true of the first question asked: *When you think about searching for information, what comes to mind for you?* and its follow-up question probing for details of the experience, as well as questions related to preferred searching locations, multi-tasking, experiences as a distance learner, and the asking for and giving of searching advice.

When responses that elicited diverse information began to repeat or when similar information was revealed but in response to different questions or different parts of the interview – that is, when there were similarities even within the diversity, this was another indicator of saturation. This was particularly true of responses to questions about searching experiences, use of resources, access to library resources or services, searching strategies, discovering information incidentally, and challenges and/or barriers related to technology or searching and accessing information.

3.5.9 *Observation and advantages of observation*

The use of observation allowed me to enter the participant field of perception to study the life-world experience as it was happening (Van Manen, 1997) and was a “valuable way of gaining a description of action and events” (Maxwell, 2005, p. 94). I was able to observe participant interactions with information, searching approaches, strategies, challenges and preferences, and gain valuable insights about their experiences as described by the participants during the interviews. The information collected through observation enriched data collection and analysis and served to corroborate and support
data revealed in the interviews about participant perspectives and behaviour related to information seeking experiences.

3.5.10 *Observation approach*

The approach employed for observation drew on two methods: close observation (Van Manen, 1997) and verbal protocol analysis (Branch, 2000, 2001). See Appendix G for the Observation Protocol. These methods, appropriate for qualitative inquiry, enabled me to enter the field of perception of the participants, explore the diversity of information seeking experiences, and allowed the participants as the knowledgeable informants of their own information seeking experiences an opportunity to demonstrate and articulate their experiences.

3.5.11 *Characteristics of close observation*

Close observation is associated with the hermeneutic perspective and as the term implies, the distance between researcher and participant is minimized; that is, the researcher enters the life-world of the informant by participating in the relevant experiences of the phenomenon. Close observation provides “different forms of experiential material” from what is collected through interviewing (Van Manen, 1997, p. 68) and may contribute unexpected and information-rich data. Close observation gives a researcher the opportunity to study the life-world experience “while it is happening” (p. 69), to take advantage of the “hermeneutic alertness” and its reflective attitude that “step[s] back and reflect[s] on the meaning of those situations [experiences]”.

3.5.12 *Verbal protocol analysis*

Verbal protocol analysis, a method used to collect data on cognitive processing tasks (such as reading or writing), is useful for finding “cognitive processes employed
while solving a problem” and provides insights about those processes (Branch, 2000, p. 372). It is a method to collect information about an informant’s thoughts using verbal reports (p. 373) and also provides a data source about processing tasks. Verbal protocol analysis has been used by researchers from various disciplines: psychology, education, math and LIS. Branch notes that the method has been used in information seeking research with university students; she has used the method in at least two information seeking studies with young adults (Branch, 2000, 2001).

Application of verbal protocol analysis involves researcher observation of a participant performing a cognitive task, an event which is typically videotaped. As with close observation, the distance between researcher and participant is minimized when using this method, but they may or may not engage with each other during the performance of the task. While performing the task, the participant will verbalize thoughts, usually referred to as Think Alouds. Following the task participants will provide a retrospective verbal report, usually called Think Afters.

3.5.13 Observation method

The observation session followed procedures similar to those described by Branch (2001, 2000), and required the use of a computer with access to the internet (Appendix G, Observation Protocol). Some participants used their own laptops, others used my laptop. I stood just behind the participant holding the Flip HD video camera with the computer screen in view to video/audio tape a searching event that lasted ten minutes. It was not possible to take field notes during the observation; field notes were made immediately after the participant left.
Participants were asked to identify a topic they wished to search and then to carry out a searching task the way they would typically search for information. Although I decided not to use Think Alouds (see below), I encouraged them to verbalize if that was part of their natural process.

I alerted them when nine minutes had passed and asked if they wished to continue searching for a few more minutes or if they wished to end the searching event. Ten were finished with the event to their satisfaction at ten minutes, six elected to continue for a few minutes past the ten minute mark. One person completed the task to her satisfaction in less than five minutes; this individual was asked if she would like to make a second search on a different topic, whereupon she agreed and again completed the task to her satisfaction in less than five minutes. All but one participant chose a topic related to their school work and most made notes about search strategies and search terms or e-mailed search results for future use.

Once the event ended, the video was uploaded on my laptop and immediately viewed and discussed as a Think After with participants; the discussion was audio tapped and later transcribed. The Think After was conducted as a natural conversation in which I invited participants to comment, describe, or reflect on the search, the strategy and what they found or discovered. During the discussion (with Kuhlthau’s ISP model in mind), I asked participants to articulate what they were thinking, feeling and doing during the experience.

Where this study deviated slightly from Branch’s protocols was in the area of query selection. Instead of using imposed queries, I encouraged participants during a pre-observation collaborative discussion to select a topic specific to their own interests and
needs. This decision was based on a desire to avoid an imposed query approach by
inflicting an artificial exercise, and instead to encourage the participant to determine a
task that was more meaningful, natural, and authentic to the experiences of the life-world.
In all cases, participants had no hesitation or difficulty selecting a topic for an
information seeking event.

The second slight deviation from Branch’s protocol pertained to the use of the
Think Aloud. I decided to use the Think After post-search conversations, rather than the
Think Aloud during the actual information seeking session. Branch (2000) acknowledges
that data collected in the Think Alouds differ from the data of Think Afters; however, I
believed that using a Think Aloud would be intrusive, add an unnecessary layer of
complexity for the participant, and interfere with the quality of the data collected during
the task. This decision is supported by Branch (2001) who cites other researchers noting
similar concerns and states that in her own study many participants had incomplete,
inconsistent, and nonexistent Think Alouds. She attributes this to the challenges of
performing a task and talking about it at the same time, including the discomfort and the
artificiality of speaking aloud (in other words, it is unnatural to the situation) and the
“limited capacity in short-term memory to do both the task and Think Aloud” (p. 113).

3.5.14 Participant reflexive journals

Participants were asked to keep reflexive journals as a record of their information
seeking experiences (see Appendix H Reflexive Journal Protocol, see also Appendix E
Consent Form). After the interview, observation and debriefing, participants were given
a template and an explanation about the reflexive journal. For the convenience of
participants, the protocol was also e-mailed to them as a word attachment. Participants
were asked to record experiences, reactions, thoughts, impressions and reflections for a minimum of one to a maximum of three information seeking events on topics of their choice over a time period of one to four weeks.

These parameters proved to be both reasonable and manageable and all but two participants completed and returned their journals. Six participants completed three entries, four completed two entries, and five completed one journal entry. Eight participants returned their journals within four weeks or less following the interview and the remaining seven participants submitted journals within twelve weeks of the interview. Data from the journals provided reflections and insights of an additional dimension that served to corroborate data collected through the interviews and the observations.

3.5.15 Follow-up interviews

Follow-up interviews were conducted to bring closure to the data collection component of the study and allow participants another opportunity to comment on their information seeking experiences and/or their participation in the study. Originally I had proposed that these would be conducted by phone; however, this was modified and e-mail was used because this approach was a more practical and direct way to contact informants. The e-mail with the follow-up questions was sent at the same time as the template for the reflexive journals.

There were only two questions asked of the informants: 1) How did you feel about the experiences with information seeking, what are your thoughts, reactions, impression or questions?; and 2) Is there anything else you would like to share or comment on?
3.6 Transcription

Data from the interviews and the observation were uploaded from the Sony digital recorder and were transcribed using the Microsoft voice recognition product that came pre-loaded on an HP Pavilion laptop. Using a headset with a microphone, I listened to the recording and at the same time spoke into the microphone. As I was speaking, the software transcribed my words into a word document. I was very pleased with the success of this approach; I was able to produce an accurate, reliable transcript in the same length of time that it had taken to conduct the actual interview.

3.6.1 Transcription protocol

To ensure consistency, reliability and confidentiality, guidance for transcription protocols was taken from Lapadat (2000) and Kvale (2009). After the verbal data were transcribed by the software into text form, I formatted the text into paragraphs with my comments/questions in a paragraph followed by the informants’ comments in the next paragraph. During formatting, I listened again to the recorded interview as means to check for accuracy and as a validity check. It was also during this phase that I considered how to identify dynamics such as emotion, tone, pauses, or various utterances. While including dynamics can be helpful in transcribed documents, I determined that it was not necessary to capture or reflect every dynamic. When I felt it was significant or meaningful to include or reference a dynamic, I would add an indication in square brackets, for example: [laughter]; or [pauses to reflect]; or [with emphasis on the word ‘frustrating’]. When summarizing the transcriptions in preparation for analysis, I listened again to the recording to ensure an accurate and reliable summary.
3.7 Managing Data

Data collected from participants were kept secure to ensure privacy and confidentiality. The digital and video recordings uploaded on a laptop and work computer were kept secure by passwords. Once data were uploaded from the Sony recorder and Flip camera, they were removed from the devices. The signed consent forms and other identifying information were kept secure in a locked filing cabinet in my office and separate from the transcribed interviews. Identifying information was not included in the transcribed documents and summaries; pseudonyms were given to informants. When working with the data for the purposes of analysis, data were contained in a private, secure work area and stored in a locked filing cabinet when not being analyzed. The transcribed documents, the summaries, and reflexive journals were kept in binders to keep the data secure and organized for analysis.

Memos and notes to track process and procedural decisions, such as transcription protocol, data management, and analysis decisions were created and retained from the early stages of the study. This served to ensure confidentiality and privacy of data as well as the consistency of decisions regarding the management, organization and analysis of data. Attention to these details supported validity and reliability and provided an audit trail as Miles and Huberman (1994) recommend.

Although many qualitative researchers advocate the use of software products to manage and the analyze data, I decided not to use software to assist with this process. This decision was based on past experience working with two different products and in both instances, I found the products difficult to work with, intrusive to the process and felt that they added a layer of technical complexity that interfered with analysis.
3.8 Analysis Approach

Preparing the data for analysis entails transcribing, and clarifying in anticipation of analysis proper, described by Kvale (2009) as a stage that involves “developing the meanings of the interviews, bringing the subjects’ own understanding into the light as well as providing new perspectives from the researcher” (p. 196).

Coding, using codes that may or may not be pre-determined, is a strategy sometimes applied to the analysis of qualitative data. Pre-determined codes were not used as an analysis tool in this study as I believed this approach would constrain the process of revealing the participants’ insights about their information seeking experiences and hinder my ability to draw out perspectives on the phenomenon. Coding may impose pre-supposed assumptions about texts under analysis and this is another reason I believed this strategy is counter-intuitive to the hermeneutic phenomenology research design. Van Manen (1997) states that phenomenological research takes its “point of departure in the situation, which for the purposes of analysis, description, and interpretation functions as an exemplary nodal point of meanings that are embedded in the situation” (p. 18). In this study, “situation” is understood to be the phenomena as experienced by the participants; those phenomena were the touchstones for analysis. The point of departure for analysis for the purpose of describing and interpreting participants’ information seeking experiences, therefore, was focused on the phenomena and the meanings embedded in those phenomena.

Analysis was an iterative process that moved from listening to the experiences (during the interviews, then to the recorded interviews), followed by reading and re-reading of the data for closer understanding and deeper interpretation of the experiences
and the relationships between experiences. Analysis moved from the general and the
descriptive – that is, a description of the experience(s) – to the substantive and the
interpretative – that is an interpretation of the meaning of the experience(s). From the
interpretative I moved to the building of findings. Foreknowledge was set aside to be
open to new information, diversity, contradictions and insights. Analysis continued until
saturation was reached. Notes were taken to record the analysis process in order to create
an audit trail, as suggested by Miles and Huberman (1994).

3.8.1 Framework applied to analysis

Creswell (2007), Hycener (1985), Kvale (2009), Maxwell (2005), Miles and
Huberman (1994) and Van Manen (1997) and were consulted for advice on the analysis
process. Of these sources, I relied primarily on Kvale, Maxwell, and Van Manen and
adapted their guidance into a four step framework and analysis approach: 1) Emergent to
early analysis stage; 2) Early to mid-analysis stage; 3) Mid to late analysis stage; 4) Final
analysis stage. Approaches for analysis of meaning: condensation, categorization/coding,
narrative analysis, interpretation, and bricolage methods, as identified by Kvale, were
integrated into the analysis approach. This four step framework brought structure and
focus to the iterative analysis process.

3.8.2 Emergent to early stage of analysis

This stage was characterized by data collection, memos, and field notes. Themes
in participant searching experiences began to emerge during data collection but at this
initial stage it was premature to form interpretations about those experiences. My notes,
in the form of comments and questions, captured ideas, descriptions, impressions and
observations. These initial impressions were bracketed to avoid overt direction at subsequent interviews.

Structuring and preparing the data for analysis consisted of organizing, managing, and transcribing the data. The process of transcribing contributed to developing ideas about themes, relationships, and emerging concepts about the participants’ experiences; these were sorted into several broad impressions and noted for further exploration in the data.

3.8.3 Early to mid-stage of analysis

This stage of analysis involved summarizing the transcribed interviews, during which I listened to the recorded interviews for accuracy and as a validity check. To prepare the data for analysis, superfluous and non-essential details were removed through summarizing. Examples of this are utterances such as “um” or brief phrases that were repeated in the same sentence: “like, you know, I mean, you know”. To bring clarity to the material, and maintain the participants’ voices, I clustered related concepts together to bring meaning to the text and strengthen the narrative focus of the “stories told during an interview” (Kvale, 2009, p. 222). Clarification and narrative structuring served to organize the material for closer, more effective analysis of participant experiences. This was instrumental to analyzing the descriptive aspects of the phenomena and also helpful with hermeneutical circle analysis to bring deeper meaning and interpretation of the experiences.

The completed summaries were read and re-read several times for patterns, stories, reflections, contradictions, diversity and participant insights about the information seeking experiences. Broad topics of potential categories reflective of participant
experiences emerged and were identifiable during this stage; Kvale (2009) explains that this type of coding is categorization and brings meaning to the text. The broad topic categories were flagged in two ways on the summaries: one or two words were added beside the paragraphs to indicate a topic (such as: barrier, technology, access, resources, strategy, library), and coloured post-it arrows were used as a visual aid to identify categories within each summary and also across all the summaries. For example, red arrows were used to indicate challenges, hindrances, and frustrations encountered by participants, while green arrows were indicators of strategies employed for information seeking. The visual aids served as indicators of “occurrence and non-occurrence of a phenomenon” and also to indicate the “strength of a phenomenon” (p. 203); that is, how frequently or infrequently a particular experience occurred. In the mid stage of analysis, occurrences and non-occurrences were analyzed for the ways in which participant experiences could be described. In the late and final stages of analysis, occurrences and non-occurrences were more closely analyzed for their relationships and connection with other experiences and to bring meaning and interpretation to the value participants placed on their experiences.

While many questions were asked of the data, the predominant questions at later stages were “what does it look like?” and “what does the informant say about that?” Although patterns and themes were emerging at this stage, the topic categories were broad descriptions of the lived experiences and still very much on a superficial level. As patterns and themes emerged, notes were taken to focus and direct analysis.

Based on patterns, concepts, and themes that were emerging from my preliminary analysis some further reading was done of the literature. This was part of the ongoing
literature review to see if any new research had been published as well as to contrast and compare emerging evidence against the research.

The steps accomplished during this stage of analysis, clarification, narrative structuring, and categorization provided direction and focus for ongoing, closer analysis during the mid to late stage of analysis. In the final analysis stage, these cumulative steps and iterative processes were instrumental in interpreting the information seeking experiences and the relationships of the patterns embedded within the experiences.

3.8.4 **Mid to late stage of analysis**

Analysis at this stage was still an iterative process that moved back to early stages and forward again as experiences, themes, and concepts associated with the phenomena were analyzed. Data from the observations and reflexive journals were analyzed along with the summaries to glean additional insights about participant experiences.

During this stage, the loosely organized concepts, clusters, topic categories and themes began to present a clearer descriptive representation of participant information seeking experiences. The concepts, themes, topics, and clusters were organized into five categories:

1. Information seeking experiences: revealed by participants’ descriptions of searching experiences, typified by what was said about the search, their perceptions, reactions, levels of enjoyment with searching, descriptions of their experiences as distance learners and as seekers of information.

2. Information seeking behaviour: typified by demonstrations of *how* participants searched for information, how the search was managed and conducted, how their searching actions compared or contradicted with descriptions of their searching.
3. Structures, themes, and contexts of the information seeking experiences: linked to searching behaviour, revealed through detailed explanations of their preferred information resources, time, giving/asking for searching advice, and managing information retrieved. Structures, themes, and contexts were also revealed through their reflective comments when recalling searching examples as they articulated their own meanings and interpretations with information seeking. In comparison to the descriptive examples of information seeking, the examples of these concepts were revealed as nuanced, layered, and complex.

4. Barriers that hinder access to information and seeking information: explanations and experiences describing challenges that hindered access to information seeking, reactions and responses that conveyed frustration, confusion about initiating searches, technology, use of libraries, library resources, and librarians.

5. Strategies employed and/or applied to information seeking: descriptions about experiences with information seeking steps and strategies developed/applied, decision making about searching approaches, what resources were used and which were avoided, decision making with respect to length of search – determining when a search could end, ways in which barriers, challenges were problem solved when encountered.

I knew at this stage that there were layers embedded within the categories that would reveal deeper insights about the phenomenon under investigation. This was, for example, when I recognized that participants connected searching success with technological aptitude. This was also the stage when I realized how pervasive the concept of time was to all aspects of searching experiences.
Building on the categorization, meaning condensation, and narrative structuring approaches, analysis moved forward to use a bricolage method, described by Kvale (2009) as an “eclectic form of generating meaning – through a multiplicity of ad hoc methods and conceptual approaches” to bring meanings out of the text (p. 233). This was accomplished primarily by analyzing details of specific experiences in combination with complementary as well as contradictory experiences to bring meaning to the connections, and relationships between the experiences – such as how time, motivation, and domain knowledge were connected, and how this relationship influenced information seeking experiences. I began to generate tables and charts to display connections, and inter-relationships of patterns and experiences.

Identification of occurrences and non-occurrences from earlier stages of analysis was instrumental in the creation of the tables and charts, particularly in providing evidence of the strength and intensity of participant experiences. These visual representations displayed descriptive details and also allowed me to draw deeper meaning, insights and interpretation from the data.

Phenomenological analysis “involves developing the meanings of the interviews, bringing the subjects’ own understanding into the light as well as providing new perspectives from the researcher” (Kvale, 2009, p. 196) and by this stage in analysis I was confident that I had uncovered the subjects’ own understanding and could provide a clear description of the phenomenon. As analysis moved from the descriptive to the interpretative, I was able to bring new perspectives to the phenomena.
3.8.5 Final stage of analysis

The focus of the final stage of analysis was the interpretation of meaning embedded in the phenomenon of the information seeking experiences and also the interpretation of the meaning in the relationships of the experiences. The final stage of analysis was the most creative, frustrating, yet most productive phase of analysis.

In this stage, I worked with the data as previously arranged into the five descriptive categories as my point of departure for deeper analysis. During this process, the descriptions of experiences were distinct from interpretation of the experiences: the questions I asked the data were less likely to be “what does it look like?” and more likely to be these questions: “what does this mean?”, “what does this tell us about the information seeking experiences and behaviour?”, “how do the experiences shape, influence and possibly predict the behaviour?”, “how does the behaviour shape the experience?” and “how do the relationships with information with one informant connect or relate to the experiences of all the informants?”. The interpretations drawn from the experiences illuminated what we can know from and about the information seeking experiences, and what we may predict about the phenomenon of information seeking experiences of distance students.

Through the process of interpretation, I applied a strategy that Kvale (2009) describes as “condensation of meaning” that draws out main themes from “natural meaning units”, and created an identifying term to represent the main sense of the experience. He also cautions that in phenomenological studies it is “paramount to obtain rich and nuanced descriptions of the phenomena investigated in the subjects’ everyday language” (p.207). I applied this advice during this stage of analysis. Building on the
five categories I had organized for describing the phenomenon, I took this further to
create five descriptive phrases that captured components of the phenomenon. I referred to
these as dimensions to reflect the descriptive and the interpretive range of the
phenomenon of participant information seeking experiences. Those dimensions are:

1. Profile: descriptive details about the participants as distance learners and general
   participant experiences as distance learners.

2. Essence: the essential experiences; essence of “being”; the core of the information
   seeking experience; elements that I interpreted as necessary or essential to the
   phenomenon before any other experiences could occur.

3. Sense-Making: approaches employed to make sense of the information seeking
   experiences, make sense of the searching, making sense of the information
   structures and patterns.

4. Barriers: hindrances, challenges and barriers encountered with the experiences,
   types of barriers – levels of barriers, internal, external, perceived, tangible, and
   intangible.

5. Transformation: evidence of experiences that have been transformative, how and
   what is changed, altered, or transformed as a result of the information seeking
   experiences.

In this final stage of analysis, greater attention was given to interpreting patterns,
relationships and themes related to sense making, barriers, and the transformative
qualities of information and information seeking. The elucidation of the experiences
emerged with greater clarity and I was able to interpret how the experiences predicted,
shaped, and influenced the information seeking behaviour, and in turn, how the
information seeking behaviour predicted, shaped, influenced the experiences. The deeper analysis conducted to interpret experiences contributed to building conclusions and there was a shift from analysis to drawing and suggesting conclusions.

3.8.6 Analysis saturation indicators

It could be argued that analysis of qualitative data is never finished because each time the data are reviewed more information surfaces. Identifying the end point to analysis can be elusive, and ultimately it is a matter of determining if analysis has been sufficient to build conclusions and if those conclusions are supported by the findings. As with interviewing, indicators for saturation for analysis were not pre-determined, but became evident as analysis progressed. Saturation occurred on three levels: descriptive, interpretative, building findings.

When I determined I could no longer draw new or fresh descriptive details from the data I considered this an indicator of saturation. This was true, for example, of information related to types of resources used, preferred searching locations, multi-tasking, experiences as a distance learner, challenges related to technology, access to resources, asking and giving searching advice, whether information had been discovered incidentally, and physical use of the library. Another indicator of saturation was confirmation of information when I compared descriptive details from the interviews with data from the observations, reflexive journals and responses to the follow-up questions.

Saturation on the interpretative level was determined when I discovered I was drawing the same interpretations while examining the data from a different perspective. In other words when interpretations began to repeat, I determined this was an indicator
that I had reached saturation on the interpretative level. This was particularly true of themes related to the experiences of searching for information such as making sense of information seeking, searching strategies, use of searching strategies, and decision making related to information seeking. This was also true of themes related to experiences, barriers encountered and strategies to manage barriers. When data from the observations and reflexive journals corroborated these interpretations, this was another indicator of saturation. When I realized that the two common threads of Time and Motivation defined the essence of information seeking experiences this was a strong indicator of saturation. Finally, when I drew out interpretations related to the transformative nature of information seeking and information, such as participants’ sense making strategies, I realized that saturation had probably been reached.

3.9 Validity

Based on recommendations from Kvale (2009), Maxwell (2005), and Miles and Huberman (1994) validity strategies used in this study include:

1. integration of validity throughout the stages of investigation (i.e. asking similar questions in different ways; probing and following up; asking for details, specifics; checking what I heard; rephrasing and asking for verification);

2. reliability/dependability – a consistency of interviewing, transcribing, data management and analysis decisions;

3. rich data – an abundant amount of rich data that are varied, detailed and substantive that are collected through multiple methods to provide a full picture;
4. respondent validation – each participant had an opportunity to review a summary of data collected specific to each informant as a means to avoid misunderstandings and misinterpretation;

5. in keeping with the tenets of hermeneutic phenomenology, inter-rater reliability was not applied;

6. triangulation – Maxwell suggests that multiple methods of data collection allow greater opportunity for thorough analysis; validity threats are ruled out by the evidence (p. 112);

7. discrepant evidence – discrepant data examined to assess deductions so that data that do not fit conclusions will not be ignored and discrepant evidence will be reported (Maxwell, p. 110-112).
Chapter 4 Results

4.1 Introduction

As the knowledgeable informants of their own information seeking experiences, the participants provided perceptive descriptions and self-reflective interpretations of their everyday lived information seeking experiences as distance/online learners. Some experiences were shared in common among the participants while some experiences were unique. Analysis of the interviews, reflexive journals, and observations illuminated the phenomenon of students’ information seeking behaviour in the distance/online environment.

The information seeking phenomenon was not separate or distinct from the participants’ academic life-world as distance learners, but rather part of inter-related experiences contributing to the overall academic life-world: information seeking permeated and was deeply embedded in their lives. The unifying element at the core of the information seeking phenomenon for these distance learners was time. Time was a force that stimulated change, action, and progress while they were engaged in information seeking. Time, especially when combined with personal motivation, situational circumstances, a desire for independence, and information source preferences, became a very strong dynamic. Time and the resultant relational dynamic was not only influential in the everyday lived experiences with information seeking, but was also found to be transformative to the information seeking behaviour of these distance learners.

As distance/online learners, the information seeking experiences and behaviour revealed by the participants reflected the current reality indicative of the shift from pre-
technology distance learning and distance library service models to technology-driven service models. In pre-technology distance models, instructors prepared content in text-based formats for distance students, and library staff selected and provided text-based library resources for them. In technology-driven distance models, the distance learners themselves access, search, select and collect much of the course content and library resource information. The distinction once made between the off-campus distance student and on-campus face-to-face student is blurring, an emerging trend noted by Howell et al. (2003) and evident in this study. Duke and Asher (2012) found that on-campus face-to-face students typically access information from off-campus, exhibiting searching patterns and behaviour that now more closely resemble the searching habits of the distance learner.

The results of this study showed the ways in which participants’ perceptions and attitudes influenced their information seeking behaviour. Among the findings, five stand out as being particularly revealing about the participants’ information seeking behaviour: the high value placed on time (and the relational dynamic of time with motivation, domain knowledge, and source preference); the Dunning-Kruger Effect; perceptions about librarians, library resources and services; the connection made by participants between technological aptitude and searching success/outcomes; and searching experiences that contributed to altered or transformed searching behaviour.

In order to contextualize and provide deeper understanding of the everyday lived experiences with information seeking of these participants, this chapter has been organized to present the participant profile as distance/online learners (descriptive results) followed by results (descriptive and interpretative) of participant experiences with
information seeking: searching experiences; strategies and behaviour; information sources; library services and library resources; challenges and issues; and technology.

4.2 Profile of Participants

4.2.1 Study participants

Seventeen self-selected individuals engaged in distance/online learning participated in the study: 16 females and one male, all of whom reside in British Columbia, Canada. Although the sample was heavily weighted toward female subjects, distance education research generally reports that females represent a greater percentage of distance learners (Barnard-Brak et al., 2010; Harper et al., 2004; Kramarae, 2001; Rousseau, 2012). Two participants were from the Northern Interior region, two were from the North Coast region, and 13 were from the Lower Mainland (Greater Vancouver) region. As noted in section 3.5.1, the interviews were recorded with the informants’ informed consent. When responding to the interview questions, the participants provided personal details they considered significant, contextual, and directly related to their everyday lived experiences with information seeking. The details embedded within their responses provided sufficient data to form a participant profile.

4.2.2 Participant profile

Distance learning literature consistently reports that the typical distance/online learner is female, mid 30s to mid/late 40s in age with family/children, and employed full time while attending school part time through an educational institution based in a community other than where the student resides (Dewald et al., 2000; Howell et al., 2003; Kramarae, 2001; Potter, 1998; Rousseau, 2012). Among the participants of this study, only one individual matched all six attributes of this profile. Another participant matched
five attributes of this profile, while taking an online program of study at an educational institution in her home community. One participant matched four of the six attributes: employed full time, attending school part time and engaged in a program approximately 800 kilometres from the educational institution, married with a family, but was male and over 60. Table 1 below displays the participant profile. Pseudonyms have been used for the participants.

Table 1: Participant Profile and Description

<table>
<thead>
<tr>
<th>Attributes / descriptors/profile:</th>
<th>Participants and age ranges:</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>18-24</td>
</tr>
<tr>
<td>Undergraduate student</td>
<td>Val, Rose, Karen, Barb</td>
</tr>
<tr>
<td>Post-undergraduate diploma student</td>
<td>Cathy</td>
</tr>
<tr>
<td>Graduate student</td>
<td></td>
</tr>
<tr>
<td>Family¹</td>
<td>Karen</td>
</tr>
<tr>
<td>FT Employed (one at 60%, three full time)</td>
<td></td>
</tr>
<tr>
<td>PT Employed</td>
<td>Karen</td>
</tr>
<tr>
<td>Unemployed²</td>
<td>Val, Rose, Barb, Cathy</td>
</tr>
<tr>
<td>Same community as institution</td>
<td>Val, Rose, Barb, Cathy, Karen</td>
</tr>
<tr>
<td>Distance (more than 20 km from institution and living in another community)</td>
<td>Jane</td>
</tr>
<tr>
<td>Online program exclusively</td>
<td>Karen</td>
</tr>
<tr>
<td>Online program same community</td>
<td>Karen</td>
</tr>
<tr>
<td>Online combined/faceto-face courses</td>
<td>Val, Rose, Barb, Cathy</td>
</tr>
<tr>
<td>Online 2 courses only (no program)</td>
<td></td>
</tr>
<tr>
<td>Physical circumstances</td>
<td>Karen</td>
</tr>
<tr>
<td>Cognitive circumstances</td>
<td>Karen</td>
</tr>
<tr>
<td>Cultural diversity</td>
<td>Rose, Barb</td>
</tr>
</tbody>
</table>

¹ Note: descriptor “Family” includes those with a partner, or with children, or both.
² Note: some participants stated they were not currently employed; others alluded to previous employment and implied they were not currently working.
4.2.3 Physical location of participants in relation to educational institution

Although distance education literature tends to focus discussion on students who live at a distance from the institution, changes to distance/online delivery with the advent of technology has blurred this distinction. Students may participate in distance/online learning regardless of residence and an emerging trend indicates that students engaged in distance/online learning may live in the same community as the institution. Participants of this study reflected this trend: eleven participants in this study lived in the same community as the institution while engaged in online courses and programs. Ten participants lived in the Vancouver area within 20 km of the educational institution, two of whom lived on the campus while engaged in both online and face-to-face courses. One participant from the Northern Interior region lived in the same community as the educational institution. Six participants lived in communities different from the community in which the educational institution was based with the distances ranging from 20 km to approximately 900 km. Of these six, two participants lived in the same community as the satellite campus of the university; classes are offered at that location, but the main campus of the educational institution is approximately 600 km distant. These two individuals participated in face-to-face, online, and audio/video courses through that institution and had also taken distance/online courses through other institutions located in other communities.

4.2.4 Programs of study/courses of participants

Of the 17 participants, eleven were taking undergraduate courses – eight were full-time students, three were part-time. Six participants were taking post-baccalaureate programs, one of whom one was taking a second graduate degree with thoughts of
pursuing a PhD, probably by distance, and two of whom were working on post-graduate diplomas (one in preparation for entering a graduate program). Three of the undergraduate participants made reference to intentions to pursue graduate studies within the next three years.

4.2.5 Delivery models

Delivery models for distance learning are generally portrayed in the literature as online and/or video conferencing with delivery that is either synchronous or asynchronous. Blended models, such as online, video conferencing and some face-to-face, combined with synchronous and/or asynchronous delivery are discussed as well. Broadly speaking, discussions focus on students participating in one specific delivery model for their entire program of study and living in a different community from the educational institution.

In this study, participants had experienced diverse delivery models – synchronous as well as asynchronous. Eight were taking online courses in combination with face-to-face courses. Seven participants were enrolled in programs that were entirely online, but even among this group, some had experienced at least one face-to-face course. Three participants had had previous experiences with correspondence courses, but had also taken online courses and could speak to both types of experience. Two were taking two online courses but no other courses and were not enrolled in a specific program, but referred to intentions to apply for a program leading to a degree. Two participants were enrolled in co-op programs, one of whom had taken a correspondence course during her work term. The other participant was in the process of making arrangements for an upcoming work term, but had no intention of taking a course (correspondence or online)
as the work term location was in an isolated area without internet service. Because of the
diverse learning experiences, the participants had a basis for comparison and were able to
speak to the differences in learning models and their preferences for online learning. The
flexible course and program delivery options offered by institutions were identified by
the participants as being advantageous to their studies and their academic goals.

4.2.6 Hiatus from education and the return to education

A typical characteristic of distance students is that they return to school to pursue
further education as a result of changes to personal and/or work circumstances after a
hiatus of approximately 5 to 10 years (Antoine, 2011; Harper et al., 2004; Kramarae,
2001; Rousseau, 2012). The profile of students in this study was consistent with this:
four participants had returned to school after a gap of three to six years and five had
returned after a gap of ten years or more.

Of these nine, three had returned as part-time graduate students to pursue career
development in their professions. Six had returned specifically because of career
changes/directions, and/or changes to personal circumstances. Three of the six had
previously completed undergraduate degrees. One was taking two courses with the
intention of pursuing an education degree, while two had returned to take advantage of
different opportunities available to them for their careers as well as to strategically situate
themselves for future graduate studies. Three of these six participants had either no or
limited post-secondary experience. One individual had been out of secondary school for
approximately six years and was taking two courses with the intention of pursuing an
undergraduate degree. One was completing a program related to her work. One
individual had worked in various sectors for approximately ten years and had decided to
pursue post-secondary education. At the time of the interview, she was a full-time undergraduate student thinking about pursuing graduate studies. In each case, participants noted that online options were attractive and contributed to their decision to pursue further education.

4.2.7 Cultural diversity, family circumstances, employment, and health circumstances

Distance literature tends to be silent on the cultural background of distance learners and language(s) spoken. It is interesting therefore to report that this study revealed a variety of cultural backgrounds. Four participants were of Asian ancestry and four participants self-identified as First Nations, Acadian, Italian, or German ancestry. Within this culturally diverse group, six of the 17 spoke English as a second language and a few commented that communicating online was supportive and helpful in overcoming potential language barriers: “I can think about what I’m saying before posting – there is no pressure like there is in a class”; “I have time to think about my postings – my postings are better”.

Of the 17 participants, 12 were married, living with a partner, or single, and of these 12, seven had children. Three participants self-identified as living at home with parent(s), while two indicated they lived on campus – one in residence, the other in family housing with her husband. The family circumstances of one participant were not revealed in the interview.

The typical distance student is described as working full time and attending school part time. In this study, four participants (one male; three females) matched this particular attribute: they worked more than part time (one worked 60%; the other three worked full time) and attended school part time in programs directly related to their
careers. The other 13 participants described various combinations of employment and education circumstances of part-time employment, unemployed, full-time student, part-time student.

In this study, five participants self-identified as having various health or physical disabilities/challenges and indicated they were managing circumstances related to mental and/or cognitive health such as learning disabilities and attention deficient disorder (ADD). One participant was recovering from a head injury that had caused symptoms related to learning disabilities: cognitive processing challenges, short term memory issues, reading and comprehension difficulties. All five of these participants shared how their specific concerns, situations and challenges affected or altered their experiences with information seeking.

There is little discussion in distance literature about the physical and/or cognitive circumstances or challenges that some distance learners may experience. Canadian researchers Fichten et al. (2000, 2003a, 2003b), who have investigated issues faced by students with physical and/or cognitive disabilities in the post-secondary setting, have stated that the number of students with these circumstances entering post-secondary institutions is increasing and among this group, individuals with cognitive learning issues represent the highest percentage. While their research focuses on the on-campus environment, they have included the distance/online learning environment in their investigations and their findings suggest that distance/online learning might be helpful for students who are managing certain physical and/or cognitive needs and circumstances. More recent literature appears to bring greater attention and awareness to this particular
discussion, noting that further research is needed (Crichton & Kinesh, 2013; Johnson & Fabbro, 2013; Wijayaratne & Singh, 2010).

Participants of this study were managing multiple priorities: work, family, diverse cultural backgrounds, and health circumstances (see Table 1, 4.2.2). Their situations and circumstances were factors that contributed to the decision to pursue distance/online learning. While on-campus students in face-to-face settings may also manage similar priorities, the participants of this study were clear that online learning was the preferred option because of their circumstances: online learning was the best and only viable option that opened educational opportunities.

4.3 Reasons for Taking Distance/Online Courses

Participants of this study had experienced both distance/online learning and face-to-face learning settings and therefore had a basis for comparison in articulating their preference for online learning. The motivation to take distance/online courses or programs was directly related to reasons of time, convenience, flexibility, situational circumstances, personal priorities, and greater educational and/or career options. This is consistent with distance education literature that reports individuals appreciate the convenience, flexibility, educational options, and opportunities offered through distance learning and these are often the reasons given to engage in distance or online learning (Antoine, 2012; Harper et al., 2004; Kramarae, 2001; Riddle, 2011; Rousseau, 2012). When the participants discussed information seeking experiences, specifically where they prefer to conduct information seeking, some of the same reasons were expressed: “it’s more convenient to search from home, everything I need is there”; “I can do my course work, look up what I need, and it saves time”.

Assessment of the preference levels (strongly prefer, prefer, somewhat prefer) for distance/online learning was determined by the strength of participants’ statements as well as the intensity of tone when describing their experiences. Comments that were strongly positive and underscored with an enthusiastic tone (“I love taking distance classes”; “sooooo convenient”; “saves a lot of time”; “I would definitely do another degree by distance”; “I would never take face-to-face courses again”) with very few or no negative observations (“there were a few glitches, but nothing major”; “there were no problems at all”), were assessed as “strongly prefer”. Comments that were positive but not quite as enthusiastic in tone (“I like taking distance classes”; “they can be convenient”; “face-to-face is ok, but I like online better”; “I like that you can do online and face-to-face classes at the same time – solves scheduling conflicts”) with some negative observations (“there were a few issues, but it was no big deal”; “someone helped me with the technology problems and after that it was fine”), were assessed as “prefer”. Comments that were positive but shaded with tone of hesitation and uncertainty (“I wanted to give it a try, I thought it would be a good way to ease back into school”; “distance is ok, but it is different from face-to-face”; “it isn’t really my preference to take an online class, but there wasn’t a choice – I needed the class”; “it seems to be working out ok”) with negative observations (“it wasn’t what I thought it was going to be”; “it can be confusing”; “it was isolating”) were assessed as “somewhat prefer”.

Table 2 displays the participant experience with face-to-face as well as distance learning and the intensity of their preference for distance/online learning over the face-to-face learning experience.
Table 2: Experience and Preference for Distance/Online Learning

<table>
<thead>
<tr>
<th>Experience with face-to-face classes in post-secondary setting</th>
<th>Experience with distance/on line classes in post-secondary setting</th>
<th>Strength and intensity of preference for distance/online learning as related to time, convenience, educational/career options as well as personal priorities</th>
</tr>
</thead>
<tbody>
<tr>
<td>All seventeen participants had experienced both face-to-face and distance/online learning</td>
<td>Strongly prefer (intense enthusiasm: “love distance”)</td>
<td>Prefer (enthusiasm: “like distance”)</td>
</tr>
<tr>
<td>Grace, Jane, Bruce, Ellen, Emily, Fran, Karen, Mary, Alice</td>
<td>Barb, Rose, Val, Zoe, Lisa, Vicky</td>
<td>Somewhat prefer (tentative enthusiasm: “distance is ok”)</td>
</tr>
<tr>
<td></td>
<td>Brenda, Cathy</td>
<td></td>
</tr>
</tbody>
</table>

4.3.1 **Time and its significance to distance learning experiences**

Participants often cited “time” as a reason to take distance courses, and analysis of their remarks revealed that the element of time was highly valued and integral to the distance education experience. Kramarae (2001) also found that distance/online learners value time. All the participants acknowledged that distance/online learning was an appealing and convenient option that allowed them to save, manage, or control time while balancing multiple priorities, as one participant notes: “Saving time is important to me”. The number of comments each participant made about time in relation to their distance learning experiences ranged from eight to twenty-five references, and in total there were 263 specific references to time, underscoring its significance for participants.

Because time was precious and highly valued by the participants, there was strong aversion to wasting time: “I hate wasting time”; “that’s why I like online courses so much because I can do them anywhere; on my own time, I’m not wasting time”; “some people post too much, it’s a waste of time to read all the postings”. Participants resented time wasted in searches that were either unsuccessful or took too long: “it took so long, I didn’t find anything – what a waste of time”; “next time I’ll probably spend more time
using Google and less time in the library where I felt I wasted a lot of time searching and reading”; “next time I’ll start with Google to save time”. Group work was similarly viewed as a waste of time as participants preferred to work independently: “it’s a waste of time working in groups”; “a classmate suggested we should study together – I hate studying with others, it’s a waste of time and why would I do that?”. Table 3 highlights the value participants placed on time in relation to distance/online learning experiences.

**Table 3: Value Placed on Time in Relationship to Distance/Online Learning**

<table>
<thead>
<tr>
<th>Context of comments about time</th>
<th>Representative participant comments about the value of time in relationship with online / distance learning experiences</th>
</tr>
</thead>
</table>
| Time saved (by taking online / distance learning) | “you save time doing online classes”  
“I can work at my own pace, on my own time, I’m in control”  
“it saves time”  
“I need to save time, I have to control my time”  
“I have time to think about my postings – my postings are better” |
| Time management (course work, personal priorities, searching for information) | “it’s easier to manage everything when I work at home”  
“I’m better prepared for classes when I work online”  
“you can manage time for school work, looking for things, other things you need to do”  
“I have to be very structured about my time”  
“I have a lot of priorities – I have to manage time”  
“I have ADD – it’s important to have structure and plan my time”  
“time is valuable – I have to make it work”  
“I wouldn’t be able to manage everything if I couldn’t take an online course”  
“I carve time out for school work” |
| Technology (as a time saving tool for online learning) | “it’s so much easier now with the technology – everything’s online – it saves time, it’s convenient”  
“the technology is great – I can work at home and manage time”  
“e-mail, chatting, posting, so convenient, so fast, so easy – I love it”  
“I remember going to the library to look up things, now I can find everything online from home – it’s so much easier and saves time”  
“It’s organized – the expectations are clear – I work on my own time and do the assignments, the postings, the quizzes” |
Table 3: Value placed on time in relationship to distance/online learning, cont’d

<table>
<thead>
<tr>
<th>Context of comments about time</th>
<th>Representative participant comments about the value of time in relationship with online / distance learning experiences</th>
</tr>
</thead>
</table>
| Multi-tasking (intersects with time management, being able to manage multiple tasks) | “I have 3 or 4 windows open at the same time, I’m holding the baby, on a headset, checking e-mail”  
“I have laundry going, stew in the oven, and I’m online”  
“I’m always doing more than one thing at the same time”  
“I have to multi-task – it’s how I manage time”  
“I have my course open and I go back and forth from the course to Google so I can search and work on course work at the same time”  
“multi-tasking saves time”  
“I’m not good at multi-tasking, I try not to do too many things at once, otherwise I lose time – I get lost – where am I?”  
“the only time I don’t multi-task is when I have an online exam” |
| Scheduling classes (the convenience of taking an online course to manage scheduling conflicts) | “the [face-to-face] class I wanted conflicted with another – so I took it online – it saved time”  
“I needed another class to graduate – but the one I needed wasn’t offered – I took it through another institution so I could finish on time”  
“I can get through faster when I take online classes – it condenses my time” |
| Scheduling work and classes (saving/managing time to meet work and school priorities) | “working full time, coming home and then going back out to evening classes is too hard – I can’t take the time for that”  
“I can work and get the degree I want at the same time – talk about convenient”  
“if work comes up – I have to go – that’s why I like online classes – they don’t interfere with work – I can work them into my own time – what works for me” |
| Family and classes (managing time between family and course priorities) | “I can go to school and be with my family – I can manage family and school at the same time”  
“I’m a single parent – I can stay at home with my daughter and do school work on my own time” |
| Family and work and classes (the ability to manage and save time in order to meet personal priorities) | “online is great – I can manage my time and juggle everything”  
“it’s convenient to do all this at the same time”  
“ I can work, take classes and be with my family – it saves time”  
“if this wasn’t online – I wouldn’t been able to take the time from work or be away from my family to go somewhere else to do the degree” |
| Wasting time (the aversion to wasting time with face-to-face classes, time wasters with online classes, going to the library; inconveniences experienced when time is wasted/lost; technology issues) | “I’m impatient, I don’t want to waste time – that’s why I like online”  
“it’s a waste of time when people aren’t ready for class, that’s why online is better – I can work on my own time”  
“I like posting online – it saves time, but I don’t have time to waste to read all the postings – some people go on and on – I just post my comment and move on”  
“the class I needed wasn’t online – I had to drive seven hours twice a week to attend the class, stay overnight with friends, drive home – what a waste of time – it was awful”  
“I was taking the last three classes for the diploma – two classes were online, but the other wasn’t – I had to drive there on Monday – it’s a five hour drive – and come back on Thursday and fit work into the weekends – ridiculous”  
“next time I’ll search in Wikipedia first before wasting time looking in the wrong places”  
“technology is great, but when it doesn’t work – it’s frustrating and you can waste a lot of time”  
“I hate online exams, the pressure is intense, the system always crashes – that happened once and there was no time left” |
Time as it related to the learning experience, especially saving, managing and controlling time, was of paramount importance and the flexibility of online learning was the solution: “it helps me manage and control my time”. One participant credited her high school experience with an online language course as being helpful preparation for her online university course in terms of organizational skills: “it helped me with time management and how to be an online student” and observed that online learning is “not the same as being face-to-face in a classroom – you have to be independent, you have to be more diligent”. By “diligent”, the participant meant self-directed and structured with time in order to manage course content and expectations. These observations were typical for all the participants who found that taking online classes could save time with learning processes and gave them time to search for information/research and be better prepared to meet academic expectations.

Closer analysis of the relationship between time and their distance/online learning experiences revealed that time represented various associations and frames of reference for the participants: a strength, a competitor, an opportunity, a threat, a strategy. And further analysis of the significance given to time revealed that within a single reference to time more than one type of time relationship was usually implied. For example these references: “multi-tasking saves time, but it can backfire too”; “I carve out time”; “time is important, I have to structure my time”, imply a relationship with time as a strength, a strategy, but also a threat and a competitor that exerts pressure. For example, this reference: “searching takes a lot of time, so you have to plan”; “if you don’t plan your time, you run out of time”; “you take time or you make time when you can” suggests time is a competitor as well as a strategy in the searching process. Another participant
explains clearly the relevance of time as both competitor and a threat and concurrently as a strength and opportunity: “I couldn’t find what I wanted, I was running out of time so I took a break; I tried again when I had time and found what I needed – I just needed some time away from it, I guess”. Furthermore, the idea of taking “time away from it” suggests that participants used time as a strategy for problem solving and reflection.

Analysis of ways in which participants took time for reflection and problem solving and their insights about the outcomes: “I was stumped at first, but when I took some time I could figure it; I felt pretty good about that – and then the next time it wasn’t so bad, because I had already figured it out”, revealed that their information seeking experiences had been altered. Because they had found a way to resolve the difficulty and had persevered, the experience had been transformative. Table 4 contextualizes time references, the implied relationships, associations with time with other contexts, and the multiple frequencies of the stated and implied frames of references.
Table 4: Context, Meaning/Significance, Frequency of References – Stated and Implied (n=frequency of references)

<table>
<thead>
<tr>
<th>Context</th>
<th>Meaning/significance of time relative to context; stated / implied references; multiple frequencies of stated/implied references</th>
</tr>
</thead>
<tbody>
<tr>
<td>Time referenced in context to and in relation with: education, career, personal priorities, course work, searching for information</td>
<td>Opportunity (time as the opportunity to advance education and/or career; opportunity to do school work at own pace and on own time)</td>
</tr>
<tr>
<td>Reason to take distance/online learning (education and/or career)</td>
<td>22 10 4 4 1</td>
</tr>
<tr>
<td>Technology (hardware, software)</td>
<td>18 25 8 27 12</td>
</tr>
<tr>
<td>Personal priorities (family, work, health)</td>
<td>21 20 11 10 5</td>
</tr>
<tr>
<td>Course work: assignments, readings, postings</td>
<td>6 24 28 45 16</td>
</tr>
<tr>
<td>Information seeking (school, work, personal)</td>
<td>15 33 38 57 15</td>
</tr>
</tbody>
</table>

The frequency with which time was mentioned and the contexts of time emphasize the strength of the integral relationship between time and distance/online learning experiences and between time and information seeking experiences for distance learners. Those participants with children (Brenda, Jane, Zoe, Ellen, Mary, Emily, Grace, Bruce) and those with both family and work priorities (Ellen, Emily, Bruce, Zoe) articulated the relationship between time and distance/online learning with greater intensity with respect to time as an opportunity and time as a strength. The relationship and inter-relationships of time with distance learning experiences emphasized the
significance and importance participants placed on the desire for independence and control of their learning experiences.

Analysis of the evidence revealed subtle differences between time as a competitor and time as a threat. While both created pressure on the participants, the difference was the nature of the pressure and how this pressure shifted during the course of their searching tasks in relation to their available time. With time as a competitor, learners felt mounting pressure, but they calculated there was enough remaining time to continue and complete their searching tasks. In this stage, they remained committed to the search, however, their searching tended to become more rushed in that race against time, but also more focused on task completion as they felt the competition of mounting pressure. As they ran out of available time, the pressure became more intense and it was at this stage that time shifted from competitor to threat: there was simply no more available time and they had no choice but to end their commitment to the searching task.

The competition for time in relation to course work and information seeking was referenced most frequently. It was found that in terms of transformative experiences, time as a competitor in relation to time as a strategy, was rewarding for participants: “it does take a lot of time – there’s that pressure to do the work and finish on time, but it’s worth it”; “it was hard work, but I took the time – it was worth it in the end – I got a good mark in the class”; “it can be frustrating, especially when you have problems and you’re losing time, but you work it out – you figure it out”.

Analysis of the time dynamic with respect to the information seeking experiences of the participants was particularly revealing about the information seeking behaviour of these distance learners as will be discussed in greater detail in section 4.11.
4.3.2  *Family reasons for taking distance/online courses*

For those participants with families, the distance/online option provided the convenience and flexibility to manage the situational/circumstantial needs of work and family life, and attend school. This reason was given by Brenda, Jane, Mary, Emily, Ellen, Zoe, Grace, Bruce, and Karen. Brenda described her experience: “my daughter is in kindergarten, I’m a single mother and I can do school work at home even if that’s at two in the morning”. For Jane, distance learning complements her personal life: “I can spend time with my family; I’m getting my degree right now, but family comes first, I’m getting my degree so I can support my family”. As a new mother, Mary noted that taking an online program gave her the convenience, flexibility and opportunity to stay at home with her baby while pursuing educational opportunities at the same time. The situation was the same for Bruce, who had obtained one graduate degree via distance and was completing a second graduate degree by distance. From his perspective, the distance learning option is complementary to his circumstances of a demanding career, busy family life, and various personal and professional commitments. A few participants identified role modeling as a benefit: “it’s good for my kids to see me working on school work”; “we all have homework”; “my children know that I have to search the internet for my school work, I help them with their searching for their assignments – it’s good for them to know how to search and to know that I can help them”. Karen’s family commitments are related to working in her family business: “when work comes up, I need to go”. She noted that participating in distance and online courses, as opposed to attending scheduled face-to-face classes, gave her greater flexibility to manage all her time commitments.
Participants with families most frequently cited the convenience of being able to juggle family and school as a reason to take distance/online learning; however financial concerns were also a consideration. Most participants with families valued the financial savings resulting from living at home while obtaining an education: “I didn’t have to leave home or my job or my family to take this degree – I could stay at home, work and go to school”. Participants with families also identified career advancement and the opportunity to improve the financial situation for the family: “I’m getting my degree so I can support my family”; “this will open up options for me and for my family”. For those participants with families, distance/online learning was an opportunity to advance a career and/or improve financial circumstances for the family. These opportunities were motivating influences that strengthened participants’ commitment to academic success.

4.3.3 Educational opportunities

For all the participants, the scope of educational opportunities not otherwise available to them was a strong motivation to take distance/online courses or programs. The decision to pursue the distance/online option was a very strategic choice that considered personal/situational circumstances and how the educational opportunity would position and prepare the individual for further education or a particular career path. All the participants articulated these reasons as motivation, as exemplified by the experiences shared by Mary, Zoe, Lisa and Brenda.

Mary was taking a specialized post-undergraduate diploma that would lead to desirable changes in her workplace responsibilities which would then position her for broader career and educational options: “I’m planning on going to grad school, this online program is applicable to my focus and it makes sense to take the program”. In
Zoe’s case, taking an online/distance program enabled her to complete her education, gave her greater career/educational options to pursue a graduate degree and allowed her to work full time and attend school part time. Additionally, her ongoing enrollment in the program was a criterion for teaching opportunities at a local college, an option that was very attractive for her. Lisa, who was enrolled in the same program as Zoe but living in a different community, had completed the program and had elected to take an additional year through an online/distance option. She stated the additional year “will enhance my learning”, giving her a degree as opposed to a diploma, and thereby strengthen her credentials. Brenda had been out of school for several years and had no post-secondary experience. In Brenda’s situation, taking an online course allowed her to be at home with her daughter but at the same time was a feasibility test: “give it a try and see if I can do it”, that is, a low risk way to determine if she was prepared to pursue post-secondary education.

Because it was a strategic decision to pursue distance/online learning – whether it was for education/career advancement or out of convenience based on personal circumstances and preferences – the participants placed high value on distance/online learning and articulated a strong commitment to this educational option.

4.3.4 Health related reasons

Some distance literature describes the flexible advantages for learners with health considerations – whether those are physical, psychological or cognitive (Fichten et al., 2000, 2003a, 2003b), but very little LIS literature discusses this topic with respect to information seeking experiences of distance students. It is interesting therefore that in this
study five participants self-reported physical and/or cognitive circumstances as a reason to pursue distance/online learning.

Two individuals commented on their challenges with attention deficit disorder (ADD) and described how they had learned to create coping strategies to manage the learning environment: “I really need to have structure, I have to be very organized and very structured”; “it’s distracting being in a classroom; I’m learning how to be more organized – that’s what I like about online – it helps me to be organized”. Both individuals stated that in contrast to face-to-face courses, the distance option provided the structure and control they needed to minimize distractions and anxiety (as related to ADD). This was true for Alice who found that her disability created pressure that made regular attendance and participation in a face-to-face setting very difficult for her: “I get really anxious in a classroom – it can make me feel sick, it’s too noisy – everyone is noisy – I can’t hear the professor; I can’t focus, it’s so distracting”. She discovered that in the online environment, she can avoid the discomfort and “stigma” of explaining the nature of her illness. She likes that online courses are impersonal and in her words do not have “that weird dynamic” between “instructors and students, when so many other students claim to be sick [i.e. with a temporary physical ailment], but may not actually be sick”. In Alice’s situation, the distance/online option not only provided convenience, but also safeguarded her privacy in an academic setting that was neutral and non-judgmental.

These advantages were echoed by another participant who managed physical and cognitive circumstances. While recovering from a head injury, Fran received accommodation to complete a face-to-face course as a distance course without the required in-class attendance. Fran appreciated the flexibility this accommodation
provided and like Alice, found that distance learning removed the pressure of face-to-face class attendance and allowed her to complete the course at her own pace.

These findings are consistent with the work of Fichten et al. (2000, 2003a, 2003b) who discuss the dilemmas students encounter when they report disabilities to instructors. Many students chose to keep this information confidential out of concern that instructors may not be empathetic or supportive. The work of Fichten et al. suggests that distance/online learning is advantageous to those with disabilities as privacy can be maintained, the desire to work at their own pace can be accommodated, and their home environment provides supporting resources.

It also emerged from the discussions that health considerations affected participants’ information seeking experiences and influenced decisions with respect to searching, time management when searching, and types of strategies employed when searching. Those with physical concerns, for example, described ways they ensure physical comfort when searching, including avoidance of lengthy computer searching sessions that might be tiring or result in physical discomfort and pain. Other participants described ways in which cognitive considerations were managed when searching. Fran, for example, had previous experience with an online course prior to her head injury and contributed several insightful comments about her information seeking experiences before and after the injury: “it was easy and fast before – I hardly had to think about it, I didn’t think about it – it was just natural…..but now, I cannot believe how exhausting it is to heal from a head injury, everything takes longer – thinking takes longer; being able to work at my own pace, on my own time is so much better for me right now”.

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Participants with health-related considerations had developed their coping strategies through trial and error, and continued to assess their progress: “I’m figuring out what will work best for me”. Although these experiences posed some challenges, the opportunities for honing individualized learning strategies contributed to transformative learning and information searching experiences.

4.4 Experiences as Distance/Online Students

When participants were asked to reflect on their distance/online learning experiences, it was evident from the interviews, observations, and reflexive journals that they had a strong desire to have control of time with all aspects of their studies. While time was frequently referenced in several contexts and strongly connected to the everyday lived experiences, participant perceptions, attitudes, and reactions about the learning experience were also integral to the learning experience of the academic life-world.

4.4.1 Learning experiences of the academic life-world: positive, challenging, mixed

Significant elements inherent to the academic life-world of these distance learners were: time, independence, and physical environment. Factors that also carried significant importance were related to instructors, course delivery, and course content including course platform design, ease of navigation, working web links in course shells and course material. Participants expected the institution to have stable, reliable technology for course delivery and instructional course design and were critical when that expectation was not met. All but one participant had a new personal computer or laptop that was stable and reliable. Given that distance/online students rely exclusively on technology it is not surprising that the participants felt strongly about the necessity for robust
technology and had little tolerance for technological challenges. The library component of the overall experience was less significant and less valued as will be discussed. Table 5 displays the elements and attributes reflective of the academic life-world of the distance learning experience and the value placed on those experiences as described by the participants.

Table 5: Elements Reflective of Participant Experiences with Distance/Online Learning (n=participants)

<table>
<thead>
<tr>
<th>Elements identified as inherent to the distance/online learning experience</th>
<th>Value placed on the elements of the learning experience</th>
<th>Types of experiences and reactions: positive, challenging, mixed</th>
<th>Positive feelings cancel the negative</th>
</tr>
</thead>
<tbody>
<tr>
<td>Element / feature / attribute</td>
<td>Necessary / desirable / required / high value</td>
<td>Not necessary / ambivalent / not an issue low value</td>
<td>Positive experiences / favourable reactions</td>
</tr>
<tr>
<td>Time (within their control)</td>
<td>17</td>
<td>14</td>
<td>3</td>
</tr>
<tr>
<td>Time (outside their control)</td>
<td>13</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>Physical settings (home)</td>
<td>17</td>
<td>15</td>
<td>2</td>
</tr>
<tr>
<td>Geographic location</td>
<td>1</td>
<td>16</td>
<td>14</td>
</tr>
<tr>
<td>Distance/online option</td>
<td>16</td>
<td>1</td>
<td>12</td>
</tr>
<tr>
<td>Independence, working at own pace, flexibility</td>
<td>16</td>
<td>11</td>
<td>2</td>
</tr>
<tr>
<td>Isolation (sense / feeling)</td>
<td>16</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Course delivery / platform</td>
<td>14</td>
<td>3</td>
<td>12</td>
</tr>
<tr>
<td>Course content</td>
<td>16</td>
<td>1</td>
<td>12</td>
</tr>
<tr>
<td>Instructor</td>
<td>16</td>
<td>1</td>
<td>12</td>
</tr>
<tr>
<td>Pedagogy</td>
<td>15</td>
<td>2</td>
<td>11</td>
</tr>
<tr>
<td>Academic interest / success / drive / need</td>
<td>16</td>
<td>1</td>
<td>14</td>
</tr>
<tr>
<td>Collaboration (group work / assignments with classmates)</td>
<td>2</td>
<td>15</td>
<td>3</td>
</tr>
<tr>
<td>Technology (robust)</td>
<td>17</td>
<td>5</td>
<td>2</td>
</tr>
<tr>
<td>Multi-tasking</td>
<td>15</td>
<td>2</td>
<td>13</td>
</tr>
<tr>
<td>Library settings / services / resources</td>
<td>5</td>
<td>12</td>
<td>2</td>
</tr>
</tbody>
</table>
Overall, just over two-thirds (12) reported that their learning experiences had been both positive and convenient with high value placed on the flexible learning options available by distance/online. Some participants identified a few challenges such as technical issues, but these comments about challenges were usually balanced against and outweighed by their positive feelings towards distance or online learning. Among the twelve, four were extremely enthusiastic about their experiences and reported either no challenges or a few challenges insignificant to the learning experience. One participant reported that the learning experience had been challenging and two reported mixed experiences of positive and challenging, with the positive outweighing negative feelings or reactions.

When participants described the types of challenges encountered, the comments revealed strong reactions to challenging experiences: “it is very frustrating when it happens”; “it is soooooo annoying”: “it’s awful, it’s nerve wracking, I’m anxious”; “I was angry”; “it’s a freaking nightmare”. However through the process of remembering their experiences, their comments changed from denouncing the challenges to minimizing the challenges. As they recalled events, the comments became less reactionary and more reflective presenting a broader perspective of the experiences: “now that I think about it, it wasn’t so bad”; “it turned out OK”; “it was a lot of work, but worth it in the end”. While it is possible that the participants felt the need to soften or tone down critical remarks, the evidence during the interviews and upon analysis, suggests that the comments were sincere and reflective. The transition in their comments implies, in spite of the frustration, that over time and with the benefit of reflection the participants had come to value the overall experience as beneficial to their academic
goals. The opportunity to assess their experiences shifted and transformed the events from negative to positive. It also suggests the opportunity for retrospective reflection allowed participants to view the experience through a different lens and in doing so they were able to draw meaning from and interpret their learning experiences. Retrospective reflection seemed to support the transformative nature of the learning experiences. The opportunity for retrospective reflection similarly seemed to contribute to transformative information seeking experiences.

Participant comments revealed expectations and standards held for their online learning experience and although these expectations varied in strength and intensity, all the participants articulated expectations for their own academic success and/or academic performance: “I want to do well in the course”; “I need a good grade”; “I want to try it out and see if I can do it”; “I always wanted to go back to school, the timing is right for me now”. With respect to instructors and course delivery, participants described expectations for the instructors, such as teaching style appropriate to the online environment, good communication, well organized course material, ease of navigation of online course material, and a clear understanding of instructor expectations of the students: “it depends on the instructor, some are better than others – it’s different online – some teachers don’t get that”. Participants were critical of instructors who gave mixed messages and/or did not provide well organized online course content or keep course material up to date: “first he said more of us should be posting and there should be more postings, and then when we all did lots of postings he said there were too many postings – what did he expect?; he asked us to post, we thought that’s what he wanted”; “you could tell he hadn’t updated his course – all the dates – even the due dates for
assignments were wrong – at first I couldn’t figure it out – he would send an e-mail
giving a due date, but the due date in the e-mail wasn’t the same as the dates in the
outline – it was so confusing: which date is it?; then I realized everything in the outline
was two years out of date – it was frustrating, I couldn’t trust it”. Being able to trust or
believe the instructor and the course content strengthened the credibility of the
distance/online learning experience for the participants of this study.

Contrary to some reports in the literature (Kim et al., 2013; King et al., 2000;
Rovai, 2000, 2002, 2003; Wiesenberg, 2001) the participants felt that collaboration
(collaborative group work with classmates) was unnecessary or non-essential to the
learning experience. Experiences with collaboration had been unfavourable, and as a
consequence, the participants had strong negative feelings about collaboration. This
finding was consistent with similar reports about negative and mixed student reactions to
collaboration and collaborative learning (Lee & Tsai, 2011; Kramarac, 2001; Ocker &
Yaverbaum, 2001; Poellhuber et al., 2011; Zhang & Kenny, 2010). Reactions about
library settings, resources and services were mixed and it emerged that use of libraries
was a less important component of the distance learning experience and therefore less
value was placed on library resources and services. Use of libraries, library services, and
use of library resources for seeking information will be discussed in greater detail.

4.4.2 Library resources and the learning experience

Participants had high expectations for their learning experiences and therefore
they placed high value on many aspects of the learning experience: technology,
convenience, time, flexible options, instructors, and mode of course delivery. The inter-
relationships formed between these aspects were part of the overall experience that
supported and enhanced learning. In contrast, participants had a low set of expectations about libraries, library services and resources, resulting in a lower value placed on library resources and services. When describing their information seeking experiences as distance/online learners, it was evident that access to library resources and services was not a strong contributing or integral factor to the academic life-world of distance learning. The relationship between library experiences and other elements of the learning experience was tenuous, less clear, and therefore less significant for the participants. There were many reasons for this tenuous relationship: general lack of awareness of library services and resources, limited or no presence of library services and resources through the online course shell, vague perceptions of the role of librarians, as well as negative perceptions related to previous experiences searching for information in library resources. Two participants reported overall positive experiences with library resources and services and three reported mainly challenging and negative experiences. Two thirds of the participants reported mixed experiences and were ambivalent about their attitudes and feelings toward library resources and use of libraries and library resources. Use and access to library resources and services was not a strong influencing factor in participant engagement with distance/online learning.

4.4.3 Experiences with settings: geographic location, physical environment, isolation

Geographic distance/location, as well as the physical setting the distance student prefers as a working environment, are part of the distance/online experience. The flexibility of alternate settings is an appealing opportunity and convenience for those who engage in distance/online learning. While the distance education literature promotes the flexibility of distance learning as an advantage, it also acknowledges that isolation related
to the geographic distances can be a disadvantage – a situation particularly evident in pre-technology distance learning models. In this study, participants confirmed their preference for distance/online learning in ways that were expected with respect to the advantages of flexible and alternate settings for conducting school work. However, what was unexpected was participant reaction and perceptions related to isolation.

Literature about distance education emphasizes that the detrimental impact of isolation on distance/online learners is linked to the great physical distances between institution and learner as well as the physical distances between the learner, fellow classmates and the instructor. In the pre-technology distance learning models, the detrimental impact of isolation posed a greater threat for academic success. Although technology can minimize physical barriers and isolation, the literature generally agrees that isolation due to physical distances can be a barrier that disadvantages learners (Brahme & Walters, 2010; Kramarae, 2001). The finding that emerged from the participants in this study revealed something different – that isolation did not appear to have a negative impact on the distance learning experience. With one exception, isolation was of little or no concern regardless of geographic location. This seems to suggest that the distinction of geographic distance has become blurred and is less definitive of a distance learner. Hence the link between physical distance and isolation has also blurred. In this study the participants generally credited technology for overcoming issues and barriers related to isolation: “technology makes it a lot easier”.

Comments, observations, and reactions to isolation arose very naturally during the interviews as participants shrugged off the notion of isolation with a complete lack of concern: “it’s not a problem, everything I need is online”; “you chat online, you post, I
find what I need – everything is online”. One individual, Emily, stated emphatically that “not once did I feel isolated” or experience isolation as an online student. Although Emily lived in the same community as the education institution, she emphasized at several points in the interview that the physical location of the institution had very little to do with her experiences as an online learner or her information seeking experiences.

While isolation was not a concern or a deterrent to their learning experiences or to their information seeking experiences, another perspective was revealed when isolation was considered in relation to participants’ intense desire for independence and their aversion to collaboration. The strong desire to manage/control their academic life without consultation or compromise with fellow students suggests that these participants were not averse to isolation, and that isolation may have been self-imposed. Viewed in this light, the preference for isolation, autonomy, and control suggests that the self-imposed isolation was evidence of “self-protective coping behaviours” (Chatman, 1996, p. 197) with respect to information seeking behaviours. Stemming from a desire for self-sufficiency, participants preferred to work on school work, assignments and information seeking on their own. Even when difficulties were encountered they rarely sought assistance, preferring to develop and apply various problem-solving strategies.

In contrast to the experiences of the other participants, Brenda was very clear about her isolation from the instructor, fellow classmates, resources and services: “it can be isolating, I didn’t expect that”. She lived in the same community as the educational institution and therefore the isolation she experienced had nothing to do with physical distance but was specific to her circumstances of being overwhelmed with technology issues, the pedagogical model of delivery, managing course content, access to resources,
and use of the library in the physical and virtual sense. While the other study participants may have preferred isolation, Brenda did not. Hence isolation was a debilitating barrier, not as a result of physical distance, but rather as a psychological experience. When an e-mail was sent to verify the address for the purpose of e-mailing the interview summary, the e-mail bounced back, leading me to conclude that this participant had withdrawn from the institution.

The comments about isolation were unexpected and suggest that isolation as previously characterized in the distance literature is shifting.

4.4.4 Experiences with settings: home environment

All the participants emphasized that being able to concentrate on course work and classes, and to search for information for assignments all within the home environment was a key advantage that enhanced and supported the distance/online learning experience. Working at home was comfortable and convenient for school work: “mainly I do it at home just because it’s comfortable at home; researching takes quite a bit of time so I prefer to do it in a place where I can have food and just be very comfortable in a comfortable setting” (Rose); “I work all day, get home, have family time, and then I start searching, I have an office area set up at home, I take my glass of wine and I search for information, I LOVE looking for information” (Emily). Alice commented that she works “strictly at home; definitely, anything I need is at home, you want a cup of tea – it’s at home, you don’t have to go to Tim Horton’s; if you want online access, it’s at home; textbook? - at home; even if you need an article….you can see it right away; you can e-mail it to yourself with the APA citation so you don’t have to do the citation; so that’s really cool, convenient and super easy”.
More than two-thirds of the participants described ways in which time is scheduled, set aside, or identified for school work and searching for information. All the participants commented on the time saved and used more effectively by working at home – they can accomplish more than one task at the same time, they don’t have to travel to classes, the campus or the library, and they save time by having the creature comforts, resources, and conveniences at their fingertips as and when needed – specifically food and beverages plus school materials and resources.

Working at home supported and influenced their motivation to search for information when working on assignments. Participants consistently made statements that school work and searching for information for assignments was more comfortable in the home environment and explained that when at home in natural surroundings they could be more focused and give more attention to their school tasks. For some participants who lived with families, working at home also meant being able to consult a trusted source (a partner, brother, or mother) for assistance or advice when conducting school work or searching for information.

This finding supports the researcher’s own recent experience in an academic library as well as research conducted by Duke and Asher (2012) who report that on-campus students generally do not come into the library for assistance and prefer to access information resources from off site. This evidence indicates that the gap between the distance and on-campus student is narrowing. This appears to be due in part to student attitudes and perceptions towards library resources, but it is likely that enhanced technology provides access to many diverse and rich educational resources making it convenient for on-campus students to work in the comfort of their homes. With the gap
between the two groups diminishing for various reasons, this suggests that many services implemented to support distance/online students could also support on-campus students. In developing, implementing and evaluating resources for students, it could be beneficial to consider all students as if they were distance/online learners.

4.4.5 Experiences with settings: multi-tasking and preference for home setting

Participants reported that being able to manage both school-related and personal tasks at the same time, in the comfort of their own home, made distance/online learning highly desirable and appealing. Personal tasks included activities that took place online, such as banking, listening to music, playing games, or looking up information for personal needs, as well as household tasks that were usually being managed at the same time, such as laundry, cooking, running the dishwasher, or keeping an eye on children’s activities. Multi-tasking practices were corroborated during the observations when two-thirds of the participants demonstrated multi-tasking (such as use of multiple windows: course content, personal documents, e-mail/e-mailing, note-taking, and search tools – typically Google and/or Wikipedia) and made comments on how this was part of their searching routines. Participant reflexive journals revealed less about multi-tasking and a little less than one-third mentioned multi-tasking when describing their information seeking experiences. However, from the interviews and observations, it was clear that multi-tasking is seamlessly integrated into their searching routines: this would seem to suggest that multi-tasking is inherent to the academic life-world of the distance/online learning and searching experiences.

When conducting school work, participants (even those who were tentative about multi-tasking) always had one or more tabs or windows open on their computers or
laptops and would move back and forth continually. Tasks related to school work involved using course content pages, Google, Google Scholar, Wikipedia, student service pages and sometimes library resource pages. Personal activities included listening to music, playing computer games, online banking, e-mail, Facebook, MSN chat, or looking for information for personal needs. Participants also accessed Facebook, MSN chat, or e-mail for school-related reasons in addition to personal reasons. About one-third noted that having several tabs open and shifting between school tasks and personal activities was a key strategy that kept them engaged and focused on their school work: “it keeps me from getting bored”, or “sometimes I just need to take a break to look at something else”. A little less than one-third noted that taking some time away from a school task was an opportunity to reflect on some aspect of the task before proceeding: “sometimes when I do something else, like play a computer game, I get ideas for whatever it is I’m working on”, or “if I’m stuck, sometimes I’ll go onto Facebook and ask my friends about something I’m trying to find – lots of times they’ll tell me about a website”.

Some participants were more comfortable with multi-tasking than others, but all the participants used and structured multi-tasking to best suit their personal and situational considerations, whether those needs were school-related, involved seeking information, or supported a particular learning style, as exemplified by Karen’s experience:

I always have my Blackberry with me, I get work calls constantly, so half the time I’m on the phone with work looking up something on Google, fixing something else, working on an essay; I tend to always have a million things going on and I don’t know whether that’s because I’m ADD or whether my life is busy, but I have lots of things on the go. I made a promise to my dad a few weeks ago that I will no longer look things up or text while I’m driving. I find if I don’t do something right away I forget about it so I need to keep organized and I have to write
things down and I find that when I think about it I have to write it down right away.

Those who were more comfortable and confident with the distance learning environment tended to juggle or multi-task several very diverse school-related and personal tasks at the same time. In contrast, participants who were more tentative about distance learning, as Brenda was for example, placed more narrow parameters on multi-tasking and were conservative about the number of school-related and personal tasks being managed at the same time: “I just can’t have too many windows open at a time…I get lost – where am I?; and I might do laundry when I’m working, but I try not to do too many things”.

Participants with young children added another dynamic to multi-tasking as Mary indicated: “I’m always doing more than one task, especially now with the baby, I usually have her in one arm, with my phone I usually put it on headset”. Similarly, Jane, Vicky, Bruce, Grace, and Brenda acknowledged that they were either multi-tasking with various family-related needs or would schedule their time in a way that would allow them to spend time with the family before engaging in school work. After a family supper and a few family-related tasks, Emily will “close the door of her office”, a signal to the family that she was doing school work, and “sit down and have a glass of wine and search, that’s what I love to do”. She explained that it is her practice to have several windows open and move back and forth between course content, a database, and other documents, and that she may post and contribute to discussions, but the focus at this point is entirely on school work.
4.4.6 *Social ecologies, multi-tasking, and time*

Many distance students develop strategies that are integrated into their learning approaches and routines to support and enhance their learning. Gerber, Ginsberg, and Reiff, (1992), and Gerber, Reiff, and Ginsberg (1996) use the term “social ecologies” to characterize the ways in which individuals control their environments to accommodate and manage work situations through the use of various strategies. Although Gerber, et al. (1992, 1996) were not discussing distance learners, the term social ecologies nevertheless relates well to the various strategies distance learners learn to develop and implement. Strategies evident among the study participants include approaches applied to the organization of lecture notes and learning materials for study purposes, as well as strategies developed and applied to information seeking. Additional examples include ways in which participants organized, controlled, or arranged their individual learning environment. The strong preference for the home environment setting and multi-tasking were some of the key social ecologies used by participants in this study. Each participant individualized multi-tasking to best suit his/her situations to manage school, personal and family priorities. Participants perceived that multi-tasking was an effective and efficient way to manage and save time to accomplish both school and personal activities.

The preference for working at home as it inter-relates with multi-tasking, time management, and social ecologies, is another example of the diminishing gap between on-campus and distance learners and sheds light on the shifting aspects pertinent to student learning and information searching processes. Although most participants indicated that multi-tasking was an advantage, this behaviour poses questions and assumptions about the challenges and situations (real, perceived, self-imposed, imposed
externally) that compel students to juggle so many tasks at the same time and whether or not multi-tasking is conducive or detrimental to their learning.

4.4.7 Experiences with instruction, course delivery – pedagogical factors

Two-thirds of the participants (Lisa, Jane, Ellen, Zoe, Rose, Bruce, Cathy, Karen, Brenda, Fran, Mary, and Alice) indicated that a positive online learning experience was dependent on an instructor’s approach: “the instructor has to be good at online teaching”. Lisa described her experiences as: “generally pretty good; I think it definitely depends on the instructor”. Zoe made similar observations about some instructors being better than others at teaching in the online environment and that the better instructors have well-designed sites. She observed that teaching online is quite different from teaching face-to-face and requires a different approach. Zoe contrasted her positive experience with her experience in another course taught by an instructor who “didn’t seem to know how to teach online”. As a result the experience in that course had been more challenging. In reaction to that instructor’s deficiencies, she and her online classmates collaborated and strategized ways to manage the pedagogical challenges by “taking over” and “working together” and “by prompting the instructor”. This example demonstrates how this individual’s previous positive experiences with distance learning provided her with the confidence to overcome this particular dilemma. Motivation to resolve this situation also stemmed from a strong desire for academic success and Zoe did not want an instructor’s approach to jeopardize her performance in the course.

Well-designed sites are integral to the pedagogy of teaching online and participants made comments about experiences navigating the course platform. Ellen, Mary, Lisa, Emily and Val, for example, commented on ease of navigation contributing
to the experience and Grace observed: “everything is outlined, all the instructions for the assignments, it’s like being in the classroom, I was very impressed because it’s very well laid out and very easily maneuverable”. Similarly Karen explained what she liked about distance courses:

I love distance courses because usually they give you the textbook and give you the online notes and the online assignments or quizzes and generally everything is there, it’s laid out for you, it’s all in your hands; you know that a professor can’t just say something on a whim and it be on the exam, it’s what’s in front of you is going to be on the exam and it’s what you need to know.

Revealed in Karen’s comments are her learning preferences as well as her expectations about the courses, pedagogical approaches, and instructors.

As mentioned, three participants had taken both correspondence and online courses and were able to speak to both types of experiences. Vicky, for example, had mixed reactions to the correspondence course, but was so focused on getting through the work she had very little to say about the model of delivery. Grace found that the course content of her online course complemented the content of the correspondence course and as a consequence found both experiences positive. However, Rose’s experience with a correspondence model was negative and she referenced her struggles with the subject matter and the limited contact with the instructor. For assistance, she turned to her brother as a trusted source and credits his support in helping her understand the course content and complete the course. In contrast, she found the online course a more positive experience.

Participant comments emphasize that strong pedagogical practices are key to positive experiences for distance/online students. When online courses are well-designed, this is interpreted as “just like being in the classroom”. The underlying themes
of time and motivation are also present in the concern and comments about pedagogy: well organized courses, ease of access to course platforms and course content, strong teaching approaches, and clear expectations are all important elements that are perceived as time savers; distance learners have little patience for course structures that “waste time”. All these course delivery elements contribute to a student’s motivation and desire for academic success.

4.4.8 Learning experiences – collaboration

There was very little participant engagement with collaboration, a finding contrary to distance literature that emphasizes that distance/online learning is conducive to collaboration and links collaborative learning with academic success (Kim et al., 2013; King et al., 2000; Moore, 2013b; Rovai, 2000, 2002, 2003; Wiesenberg, 2001). Two participants indicated that on occasion they appreciated collaboration with their classmates, but at the same time acknowledged collaboration could have drawbacks. One participant noted that “sometimes working with others is all right; but not all the time”, while another participant observed that collaboration “works when you have a good group – I’ve been lucky so far”. However more than two-thirds of the participants placed low value on collaboration and expressed strong dislike of collaboration: they avoided collaboration, did not think collaboration was necessary and did not seek out collaboration. Karen articulated her aversion to collaborative discussion and her preference to work independently and be self-reliant. She may talk to friends or classmates, but noted:

with a lot of distance courses I don’t bother, like I said, when I’m doing something, if I’m working on something I like to do it now and get it over with and keep the ball rolling, I’m not the kind of person to write on the discussion forum, and wait two or three days later when somebody
responds, by then it’s out of my mind, I’m over it, I’m on to something new, that’s why I love distance courses, because I can do all my assignments and get them all done when I’m in the mood to do it and not when I have to do it right then; that’s the great thing with distance courses is that when you’re in the mood and you want to get stuff done you can and it’s on your own terms and you can get ahead.

Strong statements about collaboration: “I HATE group work”; “I don’t like group projects”; “I hate it when they want you to work together”; I don’t like working in groups”; “it takes so much time – trying to coordinate everyone’s schedule is too hard – it wastes time, I don’t want to be held up by someone else, I’d rather just do it and get it over and done with”, were usually accompanied by body language (eye rolling, frowns, groans) that left no doubt about the aversion to collaboration.

Reasons provided for the dislike of collaboration included lack of interest, lack of time, lack of motivation to engage or initiate collaboration, and the personal preference for independence and self-reliance while doing school work, assignments, or searching for information needed for assignments. Participants were reluctant to initiate collaboration because they did not know fellow classmates and did not wish to know fellow students: “I can’t be bothered asking anyone in my class – I’m too busy, I don’t have the patience for it”; “I don’t ask, I’d rather figure it out on my own, I don’t know anyone in my class and I doubt if they would be able to help me”. When assistance was needed, participants might ask a class member but preferred to ask a trusted individual such as a family member.

When an instructor required collaboration for an assignment or group project, this was viewed with impatience, frustration, and reticence. Participants provided a few positive examples, but overall, collaborative projects garnered mixed and mostly negative reactions. The key issues articulated about experiences with collaborative group
assignments related specifically to time, as well as to concerns (legitimate as well as perceived) about equal sharing of work amongst the group members. Participants were critical and bitter if some group members had not “pulled their weight” but had nevertheless benefited from a good grade. One participant described this as “social loafing” and explained that in a group work setting some members of a group may not be motivated to do their share of the work because others are doing the work, even though it may appear that the “loafers” are contributing equally to an assignment.

The dislike for collaboration corroborated findings related to time, motivation and a strong desire to be self-reliant and independent with school tasks, assignments and searching for information. The strong resistance to collaboration is also indicative of self-protective behaviours – that is these participants did not want to share information and did not want to be put in a position that required them to share information with others. This finding also speaks to issues of trust associated with information and information seeking: these participants were cautious about trusting others in the sharing of information, especially if they perceived their colleagues might not share a similar academic work ethic.

4.5 Experiences with Libraries as Distance/Online Students

To fully appreciate the academic life-world of the distance students’ searching experiences, I was interested in participant interactions or encounters with library resources and services in the physical context as well as the virtual context. It was evident that all the participants of this study lived within close proximity of academic and public libraries and therefore the option of physical use of libraries was available to them without geographic limitations.
During the interviews, the topic of access and use of libraries, services and resources was explored with the participants and analysis revealed both expected and unexpected findings. As was expected, given the participants’ stated preference for working in the comfort of the home environment, their desire for independence, as well as their ability to electronically access a wide range of information sources online, there was little need or motivation for them to physically go to the library and most participants rarely visited libraries. Unexpected findings revealed that most participants rarely navigated library webpages or accessed electronic resources, and most rarely asked for assistance. In the following section, these points will be developed and illustrated.

4.5.1 Experiences with libraries – perceptions, attitudes about services and resources

Participants’ comments about library resources and services revealed a range of attitudes, reactions and perceptions, some of which were positive (less than one-third) but most were a mix of negative and/or ambivalent comments (just over two-thirds). It appeared that their perceptions influenced their infrequent use of library services and resources (physically and virtually), and the infrequent use served to further reinforce their perceptions and attitudes about libraries.

Participants had several reasons for their infrequent use of the library. Lack of time and conflicting priorities were the most common reasons given and more than two thirds of the participants indicated that time was a compelling reason not to use the library or seek assistance: “I just don’t have time to use the library, I can find what I need faster on my own”; “I’m too busy, I have other priorities”. Many indicated that it was inconvenient and unnecessary to use the library: “I just find what I need through Google”; “it would take me an hour to drive to the library”; “it’s not really worth it to go
“I sometimes go to the library – but I don’t spend time there – I grab the book I need and leave”; “I don’t need to go – I don’t usually find what I need there”. Several articulated their dislike or discomfort with libraries: “I don’t like libraries, they smell bad”; “there’s too much dust, the books are dusty, the dust gets to me”; “the layout is confusing, I’m not sure how they work”; “they’re noisy, it’s too distracting – I just can’t go there”; “I love reading, but I’m a library phobic”; “it doesn’t seem very user friendly and it’s not something I would go to”.

While some participant comments about physical and virtual aspects of library services were not surprising, other comments and perceptions were unexpected. About half the participants believed that libraries were not likely to have resources readily accessible and available: “I don’t think they’ll have what I need”; “I just don’t bother looking for books in the library, it takes too long and then they don’t have the book and if I try to get it from another library – by the time it’s here, I don’t need it anymore”. Statements further revealed perceptions about consulting library staff: “I don’t think librarians will really know how to help me”; “I just don’t bother because I can never find what I want – the librarians are nice, but they don’t really know”.

Participant lack of experience with libraries, or in some cases, previous experiences that had been unsatisfactory, formed the basis of participant opinions, perceptions and attitudes. Although all but three participants had been introduced to library resources in library instruction sessions, the sessions had not influenced or encouraged them to use library resources regularly. Other sources reinforced their opinions that library resources were of limited use, for example, impressions gleaned from instructors’ comments (“I couldn’t remember how to get into JStor; I asked the prof,
but she hadn’t heard of it – so I just didn’t bother”) and from classmates (“my friend told me not to bother going to the library and showed me how to find what I wanted through Google”).

Participants perceived that the library was of minimal value to them, and as a result, they had low motivation to avail themselves of library services, resources or assistance. These perceptions were corroborated during the participant observations, subsequent discussions about the observation exercise, and from comments made in the participant reflexive journals. Their perceptions contributed to opinions and attitudes of indifference and ambivalence toward library services, resources and librarians.

4.5.2 Experiences asking for assistance when searching for information: library settings

Although it was uncommon for participants to go to the library for resources, participants did occasionally borrow print resources from the library. Approximately two-thirds of the participants acknowledged occasional library use: within the library, participants preferred to be self-reliant and rarely asked for assistance with searching strategies. This was also true in the virtual sense: participants did not attempt to obtain assistance by contacting a librarian through library webpages, nor were they aware, that it was possible.

The preference for self-reliance appeared to be rooted in a strong desire to be independent and in less than enthusiastic perceptions and assumptions about libraries: “I just don’t want to bother the librarian, I should be able to figure it out on my own”; “I guess I could ask someone, but I just go to the spot and find my books, it’s easier and faster”; “the librarians won’t know about my subject area, so I don’t ask them”. In some instances self-reliance was also based on past library experiences: “I’ve asked the
The ambivalence participants felt about asking librarians for assistance was evident in their contradictory statements: “I don’t usually ask, I just look myself – I guess maybe that is a good idea to ask for help – maybe I’ll try that”. Rose commented that librarians had helped during a library visit, but qualified this by adding that this is usually a last resort for her and that she will usually try to do it on her own, but if she is “desperate” and really can’t find any information then she “might ask the librarian”. One participant stated that “I don’t think they really know about my topic – so I don’t ask for help”; however, she also acknowledged that librarians are skilled at finding information and upon reflection she acknowledged that “maybe they do know how to help me find what I need”. Another participant explained that it was the “intimidating and overwhelming” physical environment of the library that contributed to her reluctance to ask for assistance, even though the “librarians were welcoming and approachable”.

Contradictions are also apparent in Karen’s words:

Sometimes, every once and awhile you ask the librarian [i.e. face-to-face] for help and they’ll be a great help and steer you in the right direction and other times they just want to help you but they don’t really know how, so, first of all I don’t like asking other people and wasting their time and if they look busy I don’t want to bother them with my issue, but second sometimes they’ll start going [to provide assistance] and I’ll think... ‘actually, you know what, I don’t really need your help this isn’t working for me’, but they just want to help you, but they’re so slow, sometimes they’re slow and... I get... as I’ve explained, I have minimal patience.
Perceptions that librarians “don’t know about the topic” and over-explain when providing assistance strengthened participant ambivalence and resolve to avoid asking for guidance when searching for materials. The perception about librarians’ lack of discipline-specific knowledge seems to suggest that participants were not aware of the credentials and subject specialty knowledge that librarians possess and further suggests that librarians are not recognized as trusted, reliable, well-informed sources of information in general and information seeking in particular.

During the interview, as participants reflected on their experiences searching and asking for assistance, a little less than one third came to understand that librarians might be more helpful in the searching process than they realized, as exemplified in Lisa’s observation: “I guess I’ve just always done the work myself....basically I do all my searching on my own and narrow it down to this book or that article or this journal and then I come to them and say I need to get this – whereas I know now they can actually help you with the searching part”. Time was also identified with this realization and some participants recognized if time was invested at the beginning of the search to either ask for assistance or to search more widely and deeply for resources, then time would be saved later because the searching process would be more efficient and necessary resources would be at hand. One participant, Lisa, observed: “now that I think about it, maybe the librarian does know how to find things on my topic so it might be better to ask for help when I’m trying to find things, it might save time later”.

While most participants were reticent to ask for assistance, one third reported they would ask: “I will ask the librarian for help; they are helpful and very thorough” (Val); Mary and Jane noted that they had found librarians knowledgeable and helpful and didn’t
hesitate to ask for assistance when needed. However, contradictions and ambivalence were also apparent when participants described their experiences. Lisa stated that she preferred to “figure it out without asking” but later stated “ask the librarian, that’s what I say”. Later in the interview, she changed her mind again, as she explained that if she needed assistance in the evenings she likely wouldn’t call the library:

if it’s after the library hours, it’s a little odd to call somebody when everything is on the Internet – when we have a problem we often e-mail so I never really thought about calling the library which is kind of funny, it’s crazy but you just don’t; I guess it’s the same thing with everybody texting these days and nobody picks up the phone because it just seems to take a little longer so I just generally e-mail. If I’m stuck, I’ll shoot off an e-mail, it’s just that it’s one of those things that you have to wait for a reply for and I’m a little impatient, so I’d just try to find the information or ask somebody else in the class if I know them. But I’m very comfortable clicking on links, and exploring the site to figure it out.

When Lisa explained the process she uses to seek assistance when online, she described an icon she clicks to receive a reply within 24 hours: “that’s what I use”.

However, it was evident in the interview that she was uncertain where the icon was (whether it was part of the course shell or on the library pages somewhere), nor was she clear on what the service was exactly (library service, computer help) and who provided the service (librarian, library staff member, a computer help desk staff member). While it is encouraging that this participant’s experience with getting assistance online was positive and supportive, her lack of awareness about who was providing the support is indicative of participants’ overall lack of understanding about the level and nature of assistance library staff can provide.

Mellon (1986) reported that many individuals are affected by library anxiety that prevents or inhibits them from using library resources, services, and more importantly, from asking for assistance. Findings in this study revealed that some participants may be
affected by library anxiety: “I’m a library phobic”; “the layout is confusing”; “it makes sense to the librarians, but not to me”; “it’s overwhelming, confusing”; “I don’t want to bother the librarian”; “libraries smell bad”; these feelings, impressions and perceptions prevented them from asking for assistance. However, it seemed more evident from participants’ overall responses that their reluctance to use library services, resources, or ask for assistance was firmly rooted in perceptions about libraries and librarians and an overall lack of a library presence (physical and virtual) in their academic life-world. The strong desire to be independent, have control of time and learning along with self-protective behaviours were more significant influences in their academic life-world with respect to information seeking.

4.5.3 Experiences asking for advice about an information need: trusted sources

When informants needed advice about an information need, they consulted a trusted source – an individual recognized as being knowledgeable about a topic, almost always a close family member such as a brother, father or mother. They did not consult librarians for the reasons noted immediately above, they assumed instructors to be “too important and too busy” to be contacted, and they rarely mentioned classmates in the role of information advisor. In general, participants preferred to be as self-reliant as possible with school-related tasks and searching for information related to those tasks.

In addition to consulting close family members, ten participants reported that they approached close friends or work colleagues for information advice about a particular topic because these people were knowledgeable about that topic. Participants contacted close friends about an information need through e-mail, phone, MSN chat, face-to-face, or in a few instances, Facebook. That Facebook friends (whom the participant may never
have met in person) represented reliable trusted sources for information advice is an interesting aspect of social media culture. A few participants liked to search for perspectives that differed from or challenged the “mainstream viewpoint”. Jane, Mary, and Rose described such experiences and noted that their Facebook friends often alerted them to websites with alternate perspectives. Similarly, Val and Vicky consulted chat rooms and blogs as information sources, noting that blogs were helpful for reading diverse opinions, because as Vicky stated: “they’re not getting paid by anybody to say anything so they’re being really honest”.

Advice from these sources was valued and trusted, not only because the advice came from close friends, but also because the advice was perceived as being an alternate perspective as well as honest and objective. Because the advice resulted in helpful information, the practice of consulting a trusted source for advice was reinforced.

4.5.4 *Experiences giving advice and assistance with an information need*

About two-thirds of the participants indicated that when asked for advice regarding an information need they usually suggest the same approaches they had found successful. Typically the advice they gave was to direct classmates “to use Google – it’s the best bet” because “information is readily available by a Google search” although a few participants indicated that they also suggested Google Scholar and Wikipedia. A couple of participants noted that after suggesting Google, they also recommended the index Academic Search – because “it’s easy to use and I use that one a lot”.

A few participants took a different approach to providing advice. Cathy’s practice was to provide advice based on “word of mouth – that’s the best way, I would say to talk to people, that’s the advice I’ve been told, I think it starts with interaction between
people; I also tell people to read the information in the websites very carefully”. Emily explained that “the advice I give is ‘don’t be scared of it’ - people are scared to search, they’re scared to do literature searches - but I remember being like that in my undergraduate [classes] because we didn’t have the technology that we have today”.

About one-third of the participants had not had opportunities to provide advice (Brenda, Barb, Vicky, Lisa, Rose), but indicated that if asked for advice they would likely tell friends or classmates to use Google to search for information. Lisa stated that if she were to give advice, she would say that the problem is not so much how to find the information “because the search engines are pretty good, it has more to do with checking the information to make sure that it is from reliable, research-based and evidence-based information”. Both Rose and Val stated that if asked, they would have no idea what to suggest to others; Val did not feel confident in her own searching skills to provide advice, and Rose was not certain what other options to suggest beyond Google, Google Scholar or Wikipedia.

Participants indicated a willingness to provide searching advice and tips to friends, colleagues and classmates. The type of advice given mirrored their own searching patterns and was commensurate with their own level of expertise, suggesting that the individuals providing the advice expect their colleagues to be as independent and self-reliant as they are when searching for information.

4.5.5 Experiences with online library tutorials

In practice, many libraries provide online tutorials, some of which are text based, while others make use of software to create animated or video tutorials for on-campus as well as distance students. The online tutorials, whose purpose is to provide students with
instructional assistance with accessing resources and services, are seen as an effective alternative to direct librarian contact and supplemental to library instruction.

Although librarians create these tutorials to be helpful to all students, many are developed with the needs of distance students specifically in mind. There is an assumption that distance students will have a special need for tutorials and will perhaps use them more than on-campus students (Brumfield, 2008; Lindsay, 2004; Van de Vord, 2010). When participants were asked about experiences using online library tutorials, none of the participants were aware of the online library tutorials available to them, showing clearly that these resources were not part of their everyday lived experience as distance learners. Typical responses to this question were: “no”; “I’ve never heard of those”; “not that I’m aware of”; or in Lisa’s words:

I don’t think so [about using online tutorials] but then again I’m just the kind of person who just clicks on stuff ...I just sort of signed up for the orientation to learn about it [the course platform] – maybe that’s where all that library stuff was - but I never ended up taking it ’cause the program started; my course started and I just clicked on my course shell and started walking through and clicking on stuff and figuring it out.

Lisa’s comments reflect a strong preference for self-reliance apparent in the study participants and suggest that she may have unknowingly “walked through” a library tutorial as she was navigating the course shell.

The general lack of awareness about the online library tutorials (many of which are embedded in the library pages of both institutions of this study) reinforces the finding that the participants of this study rarely navigated or explored the library pages. However, it may also be the case that the tutorials are difficult to find and not immediately apparent to students. Typically, the terms used to identify tutorials have meaning for librarians and library staff but will have little significance for students. The lack of awareness could
also suggest a lack of communication with library staff, instructors and students, creating a tenuous relationship between library resources and course content. Overall, tutorials were not part of the academic life-world for these participants.

This finding is contrary to that of Brumfield (2008) whose recommendation for the use and benefits of tutorials was based on limited anecdotal evidence of tutorial use, but corroborated Duke and Asher (2012) who report that students are self-reliant and have very little interaction with libraries, library services (such as instruction and/or tutorials) and librarians/library staff.

4.5.6 Experiences with library instruction – mixed reactions

Formal library instruction sessions contribute to academic success and librarians devote much time, energy and expertise to giving instructional sessions to teach students information literacy skills, such as searching skills, identifying scholarly sources, critical assessment of scholarly resources, and ethical management of materials (Dewald, 1999; Johnson & Fabbro, 2013; Van de Vord, 2010). Library instruction for distance students is generally delivered in a variety of flexible models: face-to-face, blended, online using various courseware packages, chat, video/audio conference, and phone. Librarians assume that this variation in instructional models will minimize geographic barriers and facilitate instruction reaching as many distance learners as possible.

All but three participants experienced some form of library instruction either face-to-face or in an audio-conference in sessions that lasted from 30 to 60 minutes. Participants reported taking a session related to a specific online or distance course in addition to instruction sessions taken prior to their distance courses. Participants reported
both in-class and outside-of-class time scheduling of instruction sessions. Most of the
sessions had voluntary participation, but in four instances, involvement was mandatory.

Participants stated that librarians provided the instruction sessions, although one
participant recounted a different type of experience. She had attended a workshop held in
a student centre that lasted less than half an hour. She was unable to recall who gave the
workshop and unable to recall what types of resources were demonstrated, but seemed to
remember that there “were other students there who would give their experiences with
searching”. She noted that it “was useful in terms of sharing experiences, but it didn’t
really help me in particular, it [searching skills] was just something that I had to establish
on my own”. Following this experience, she had not taken any other type of workshop or
instruction session from librarians.

Participants involved in introductory mandatory sessions expressed impatience
with the process “it takes up time, I’d rather just get on with it – you know – figure it out
myself”. Subsequent mandatory sessions were met with even stronger impatience and
irritation as exemplified by Alice’s experience. Alice admitted that she had limited
motivation for the first session and was impatient with the required booklet she had to
complete and submit for marking – an exercise she viewed as simplistic and pedantic. In
her opinion the session was boring, a necessary but unpleasant task, and she finished the
work booklet as quickly as possible. When she was required to take a second mandatory
session, she was even less motivated and more irritated with the booklet exercise and she
worked with a partner in order to finish as quickly as possible.

Lisa’s attitude was a little more positive toward her mandatory instruction session
at a college prior to her university experience: “it was actually a really good exercise and
that’s when I realized that I could get more help from them [librarians]”. However, when asked about her experiences with instruction sessions at university she offered this:

I just clicked on my course shell and started walking through and clicking on stuff and figuring it out and then I never bothered to go to the orientation - that’s where the orientation might help... the college orientation is mandated. You have to take the orientation course when you start a course and that’s where I learned about a lot of the library stuff.

During the interview, she reflected that maybe if she had taken the orientation for her university courses, she might now be aware of how to find the resources through the library.

Most participants had attended one session and the general consensus was that one session was sufficient to understand how to use the library, access resources, and search for information. A few had participated in more than one session and appreciated the “refresher”, but this was the exception. One person who had attended three sessions within a very short period of time described her experiences this way: “the way they talk is boring, the librarian kept repeating herself – ‘OK, we get it’ – but it was helpful, I guess”. One of the sessions included a scavenger hunt to find peer reviewed sources and although she appreciated learning how to identify peer reviewed sources, the scavenger hunt exercise seemed juvenile and her impatience was evident from her reflections.

Participants held ambivalent and mixed attitudes about use of library resources and asking for assistance from librarians and library staff. Their experiences with instruction served to reinforce these perceptions rather than change them and participants became even more reluctant to use library resources and services, including assistance from staff. Given that all but three participants had been introduced to library resources and services through instruction sessions, this finding suggests that instruction sessions
may not be an effective method to encourage ongoing and sustained use of library resources and services. This finding also suggests that participants’ negative or ambivalent perceptions of libraries, when coupled with their drive for independence, counteracted the librarians’ efforts with instruction sessions.

4.5.7 Experiences with library instruction – participant evaluation of delivery

Participants did not hold library instruction sessions and instructors to the high standard of quality they expected of the courses and course instructors. In other words, because of the low value they placed on the sessions, their expectations were much lower for the library sessions as compared to the higher standard expected of instructors and online instruction.

Most participants were indifferent, ambivalent or impatient about the sessions, but the opinions of four stand out. Two participants were quite positive about their instruction sessions and appreciated their value. In contrast, two participants expressed strong negative opinions about their experiences stating that the session was confusing, frustrating, and that trying to use the library was daunting. As a consequence, the instruction sessions thwarted subsequent library resource searches for both of these individuals and discouraged them from seeking assistance, or in their words: “it’s a freaking nightmare….I gave up… I just can’t be bothered asking for help”, and “I didn’t want to take the time to get acquainted with the system”. One participant continued to rely on Google and borrowed print monographs from a local college library that was a more familiar environment and the other used a resource licensed by her place of employment.
Participants recalled that when they took an instructional session, they did not appreciate the session’s value and indeed it was considered an unpleasant requirement best completed as soon as possible. Although a few participants commented that they found the sessions “somewhat helpful”, all the participants reported experiences and reactions that can be described as a mixture of impatience, indifference, slightly positive, and mildly interesting. Even those participants who were more highly motivated to attend a session and expressed an initial interest and optimistic anticipation that the session would be helpful, found it difficult to remain engaged and motivated, leaving them disappointed, bored and confused by the session’s end.

During the interviews, however, participants acknowledged that on reflection, the sessions had actually helped more than they realized and perhaps had they given more attention during the session or taking additional sessions, the skills gained would help with information searching and thus save time. Some participants speculated that if library instruction was delivered with a more organized comprehensive approach and integrated with course content, the instruction would be more beneficial to the academic experience. Throughout the interviews, comments about their experiences as distance learners, as well as experiences with library resources and services, were consistently direct and candid. I am confident that the participants had forgotten that I am a librarian and felt comfortable revealing their opinions without the need to soften or tone down their remarks. For this reason, I believe the comments about instruction sessions, offered by their own volition and without my probing, are based on their own reflective insights about the experiences. These are valuable insights that reinforce the importance of increased collaboration among librarians, instructors, and students so that the library
experience is more completely embedded within the distance learning environment thereby strengthening a holistic academic relationship.

Nevertheless, the mixed and indifferent reactions to the sessions, and to the delivery style of the sessions (“the librarian kept repeating herself”, “we had to do a scavenger hunt”) generally reinforced assumptions and attitudes about libraries and perpetuated negative and ambivalent perceptions about the library, use of the library resources and the expertise of librarians. These perceptions affected many aspects of participants’ searching experiences and strategies, choice of information sources, and decisions about avoiding rather than using library resources. Their experiences with library instruction also influenced and strengthened their desire to be as independent as possible when searching for information: “it wasn’t that helpful, I can find it faster on my own”; “librarians are nice, but I’m impatient and I can find it on my own”. Given that these participants recognized the value of the instruction after the fact suggests that if the opportunity for self-reflection is integrated into library instruction sessions, the benefit of a reflective process could be of transformative value for students. These results also suggest that different approaches with library instruction could help change distance/online learners’ attitudes and perceptions when it comes to information seeking, asking for assistance, and recognizing librarians as trusted, reliable sources of information.

4.6 Experiences with Information Searching as Distance/Online Students

Analysis of the interviews, observations, and reflexive journals revealed many insights about the phenomenon of information seeking as experienced within the academic life-world of the participants. Whether participants purposely sought or
incidentally discovered information, characteristics of the phenomenon, such as search enjoyment, search strategies, challenges encountered, and management of the search process and information collected as a result of the search, tell us about the searching experiences and behaviour of these distance/online students.

Generally speaking, the search behaviour evident in the participants of this study can be described as systematic, persistent, self-directed, creative, and self-regulated. While these qualities varied in intensity among the participants, they were evident in all interviews, observations, and reflexive journals. In this context, “self-directed” characterizes participants’ preferences for self-reliance on one’s own searching skills and abilities with little guidance or assistance from others, the desire to “figure it out” independently. “Self-regulated” is similar to self-directed, but is understood to portray search behaviour that is reflective and evaluative, revealing the searchers’ increased commitment to the search process and greater cognizance of the use and development of search approaches. Metacognition is thinking about one’s thinking; self-regulated in this context is thinking about one’s searching. Metacognition is further extended from thinking about one’s searching to bridging the gap between searching for information and obtaining the information. As a consequence, as Budd (2005) describes, it is the process of searching for the information as well as the information itself that contribute to the transformative experiences for information seekers. Kuhlthau (2004) also states that the process and the information contribute to alterable experiences for information seekers. Self-regulated searching experiences and thinking about one’s searching were strongly connected to transformative experiences of the search behaviour phenomenon.
Participant search behaviour was found to be affected by attitudes, perceptions, past searching experiences, challenges or hindrances encountered, and preferred practices and habits. Their searching behaviour was also affected by level of searching skills and domain knowledge (familiarity/knowledge with the subject area, Desjarlais & Willoughby, 2007; Desjarlais, Willoughby & Wood, 2008). Of these effects, time, personal motivation, situational circumstances, and a desire for self-reliance were key influences foundational to the information seeking phenomenon.

4.6.1 Categories and characteristics of searching skills and search behaviour

The thick data collected about participants’ everyday lived information seeking experiences provided rich descriptive details about their searching skill levels and illuminated their search behaviour. Analysis of these data from the interviews, observations, and reflexive journals revealed that participant search skill level and search behaviour can be categorized as: novice (beginning/emergent searching skills), intermediate (early, developing searching skills), and advanced (strong, well developed searching skills).

Guided by the underlying assumption that the participants are the knowledgeable informants of their information searching experiences, the researcher drew indicators of searching skill levels directly from participants’ own descriptions of their searching experiences. Their self-reflective and insightful comments about their searching approaches, searching strengths, limitations, and abilities revealed a clear picture of their search behaviour. Statements such as: “I’m new at searching, I’m not very good at it yet”; “it’s all new to me”, were indicators of novice searching levels. Descriptive comments such as: “I’m getting the hang of searching, I think it’s getting easier for me”;
“I clued into looking at the keywords and clicking on reference links – that made a big difference”; “I’m much better at searching for information than I used to be – it seems to make more sense – it still takes a while, but not as long as it used to”, were indicators of developing, intermediate searching levels. Indicators of advanced searching skill levels were participant comments such as: “I’m organized about searching”; “I plan it out before I start searching”; “I usually have a good idea of how to start my search and where to search”; “you really have to think about the searching part and then you have to look at the results – depending on what you find, you have to change your approach”.

In interpreting participants’ descriptions of searching, I found that expressions of confidence along with descriptive details about search approaches, levels of familiarity with search tools and information sources, and the number of search tools used for a search, were additional indicators of searching skill level. Comments such as: “I don’t really know what I’m doing”; “it’s hit and miss” were typical of novice searchers, whereas, comments such as “I had to keep looking – I didn’t want to miss anything and I needed to be picky – well critical – of what I was finding and check it against other information” ; “because of the focus of the topic I knew I had to search more than one index for my search, especially because I needed Canadian information” were indicative of advanced searching skills.

Closer and deeper analysis of participant searching behaviour revealed patterns represented in Kuhlthau’s Information Search Process model: the emotional reactions related to searching (affect, feelings, emotions); the mechanical aspects of the searching (the physical task of entering a search term in an information source to retrieve results); and the intellectual aspects of searching (cognition, thoughts, assessment). Overlaying
categories of Affect, Task, and Cognition with Novice, Intermediate, and Advanced
distance/online learners. Table 6 below displays search behaviour categories and
characteristics as evidenced by participant descriptions of searching experiences.

Table 6: Search Behaviour Categories/Characteristics Reflective of Participant Searching Experiences

<table>
<thead>
<tr>
<th>Categories and characteristics of searching experiences/behaviour</th>
<th>Novice (beginning/emergent)</th>
<th>Intermediate (early/developing)</th>
<th>Advanced (well developed)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Affect: tentative, lack of confidence, confused, impatient, rushed, less persistent, anxious, distracted, uncomfortable, frustrated, over and/or misplaced confidence, not sure how to manage feelings when searching</td>
<td>Barb, Brenda, Vicky, Rose, Val, Grace, Alice</td>
<td>Cathy, Jane, Bruce, Fran, Lisa, Mary, Karen</td>
<td>Emily, Ellen, Zoe</td>
</tr>
<tr>
<td>Task: heavy reliance on Google, limited use of library resources (electronic, print, indexes, catalogue), browsing single subject area in favour of using catalogue, limited focus on searching process and on sources used, less able to manage or problem solve when hindrances / barriers encountered; multi-tasking</td>
<td></td>
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<td></td>
</tr>
<tr>
<td>Cognition: less attention given to the cognitive aspects of the search process, impulsive searching, limited decision making, limited assessment of process and of materials collected, limited critical analysis and synthesis of process and materials collected, easily and quickly satisfied/ gratified with initial search results</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Affect: developing confidence, patience, persistence; less distracted; developing strategies to manage impatience, frustration, confusion</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Task: less reliance on Google, developing use of selected library resources (electronic, print, indexes, catalogue), developing strategies to manage search process, collection and management of materials, developing strategies to manage or problem solve when hindrances / barriers encountered; will return to Google when problems are encountered; multi-tasking; becoming more focused</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cognition: thinking about ways to develop strategies related to search process and to material collected: decision making, assessment, analysis, evaluation; management of materials collected, less satisfied with initial search results</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Task: reliance on selected/specific library resources (electronic, print, indexes, catalogue), next to no reliance or use of Google, well developed strategies to manage all aspects of search process: process, collection / management of materials, problem solving when barriers / hindrances encountered; multi-tasking; very focused</td>
<td></td>
<td></td>
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<tr>
<td>Cognition: reflective – more conscious of cognitive aspects of searching; well-developed critical and analytical skills related to search process and to material collected: decision making, assessment, analysis, evaluation; management of materials collected, not satisfied with initial search results</td>
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Novice searchers typically referred to the searching experiences as confusing, frustrating (Affect) and referenced Google as their preferred information source for its
ease of use in searching: “you can put in anything and you get what you need”; “I just enter the word for my topic and I get what I need – it’s usually the first thing up” (Task), and gave less attention to analyzing the process and materials collected (Cognition).

Novice searchers generally were more accepting of the material found early in the search and generally ended the search soon after. Intermediate searchers were less confused, were developing confidence (Affect), were not quite as reliant on Google and used other search tools (Task) and were beginning to evaluate the process and materials (Cognition). Intermediate searchers generally devoted more time to searching. Advanced searchers showed patterns of greater searching persistence, patience, less frustration (Affect), more reliance on indexes and the mechanics of searching indexes (Task), and were far more analytic with their search strategies and approaches (Cognition). Searchers with more advanced skills were more discerning and evaluative of material collected and often conducted extended searches.

4.6.2 Domain knowledge – familiarity with a subject area and searching experiences

In this study, domain knowledge is understood to be the knowledge and familiarity with a subject area (Desjarlais & Willoughby, 2007; Desjarlais et al., 2008) and also understood to be part of the life-world of the study participants. This study revealed that domain knowledge was integral to the information seeking experiences and as might be expected, there was a strong relationship between domain knowledge and searching behaviour.

Evidence of domain knowledge was drawn from participants’ comments, reflections, and self-assessments. This information emerged in various ways, but typically, indicators of domain knowledge were revealed through participant descriptions
and reflections on their searching experiences for courses and assignments. The ways in which participants described their confidence, comfort, and familiarity with a subject, course of study or with a class, or offered details provided about their academic and/or life experiences provided indicators of domain knowledge. These comments, for example: “I’ve never taken that kind of course before so it was a little tricky looking for stuff”, and “this is all new to me, so I’m really feeling my way and trying to figure it all out”, made by novice searchers are indicative of low domain knowledge. In other examples, some participants described their educational and professional qualifications in addition to stating the number of years they had been employed in their profession – this was an indicator of high domain knowledge in their field of study and discipline: “I’m familiar with the topic, so I knew what I was looking for and what I wanted to find”; and “from my years in the field, I know what information I need – I know the information is out there”.

Indicators of domain knowledge also emerged from participants’ discussion of their learning styles. Comments about learning style that were linked to domain knowledge included: “the course I’m taking now is about learning and learning technology – something I know a great deal about”; “when I changed my learning style from passive to active, everything was better, I learned more about the topic, I felt better about the course”; “online learning suits me – it’s how I learn and it [the program] is a good fit for me [professional background/experience]”; “structure is important, I have to be organized…I assess and evaluate the information ….the professors will give sources, but I would rather find my own sources [of information] so I can assess and evaluate the information…I look for the websites with the facts laid out – those speak to me”.
Participants who had become more cognizant of their learning styles commented on the positive changes they had experienced in their understanding of the subject matter: they measured their academic success by grade improvement and increased confidence with knowledge building.

4.6.3 Searching abilities and levels of domain knowledge

The analysis revealed that domain knowledge amongst the participants could be characterized as low, low/mid, mid, mid/high, and high. When domain knowledge was compared to and analyzed against searching abilities, the close relationship between the two became clear and it was evident that levels of domain knowledge corresponded with the searching categories of novice, intermediate and advanced (as discussed in Section 4.6.1 and displayed in Table 6 – Search behaviour categories/characteristics reflective of participant searching experiences). Further analysis of this relationship found the searching abilities within the novice, intermediate, and advanced categories could be subdivided into levels of low, low/mid, mid, mid/high, and high that were compatible with domain knowledge. This relationship of searching ability and domain knowledge revealed a continuum or range of abilities from a low level to a high level. Table 7 below, displays the ranges and levels of searching abilities and domain knowledge of novice, intermediate, and advanced searchers.
### Table 7: Searcher Categories and Levels of Searching Ability and Domain Knowledge

<table>
<thead>
<tr>
<th>Levels of searching ability and domain knowledge</th>
<th>Searcher categories (Novice, Intermediate, Advanced)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Participants</td>
<td>Brenda, Vicky, Barb</td>
</tr>
<tr>
<td></td>
<td>Rose, Karen</td>
</tr>
<tr>
<td></td>
<td>Val, Alice, Grace</td>
</tr>
<tr>
<td></td>
<td>Bruce (anomaly)</td>
</tr>
<tr>
<td></td>
<td>Mary, Cathy, Lisa</td>
</tr>
<tr>
<td></td>
<td>Jane, Fran</td>
</tr>
<tr>
<td></td>
<td>Emily, Ellen, Zoe</td>
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</tbody>
</table>

Novice searchers possessed low to low/mid domain knowledge and low to low/mid searching abilities. The searching experiences and behaviours of this group reflected searching approaches that were tentative, superficial, with a heavy reliance on Google and less reliance, if any, on additional information sources. Participants in the novice group were generally less discerning, less critical and evaluative of search results and usually satisfied with a search outcome resulting from a superficial and brief search.

Intermediate searchers were developing searching abilities and domain knowledge. Their searching behaviours showed that they were cognizant of a search process to which they applied domain knowledge: “I’m familiar with the subject – so I knew I would find something on that part of the topic I was looking for”. Participants had nascent confidence with searching and tended to use more information sources with less reliance on Google, although Google continued to influence their behaviour. These searchers spent a little more time on a single search and were a little more critical and
evaluative of the search process and search results. The anomaly in the intermediate
category is the single participant whose high domain knowledge from his professional
career as well as his academic studies did not correspond to a high searching ability. As a
consequence, by his own acknowledgement, he seemed to experience a higher degree of
frustration – his domain knowledge informed him that the “information is out there but I
just can’t seem to get to it”. This individual revealed that his searching experiences were
lengthy and time consuming but produced few results.

The participants in the advanced searching category possessed high domain
knowledge of their discipline from their academic as well as their professional life. The
deep comprehension and familiarity with their disciplines provided support and
confidence while searching. Individuals in this group were competent searchers who
consistently used a variety of library resources and information sources and typically did
not use Google. Participants in this group devoted more time to searching and were more
attentive, critical and evaluative of the search process, search strategies and search
results.

It also emerged that as individuals became more knowledgeable and familiar with
the subject area and field of study, this knowledge was applied with greater confidence
while searching: “I’m getting the hang of it now”; “I learned more about the topic, so
now know what I was looking for and what I wanted to find”. This study revealed a
dynamic relationship between domain knowledge and searching ability: greater domain
knowledge informed and improved the search process. As the search process developed
and improved, this in turn supported and influenced domain knowledge. This iterative
process was an integral aspect of the academic life-world and contributed to the academic
experience. Interpreting the evidence in this light reveals that searching for information and learning experiences are strongly connected to the transformative nature of information and transformative qualities of information seeking.

4.6.4 Dunning-Kruger Effect

During the interviews, a pattern emerged with respect to participants’ searching experiences: how they characterized their searching skills was sometimes contradictory to their descriptions of searching approaches and demonstrations of their searching skills. Once data collection was complete, this pattern was examined by comparing participant self-assessment comments about their search skills with their descriptions of search approaches, the observations, and their reflexive journals. Analysis of the relationship between how they assessed their skill level and how they demonstrated their searching competencies revealed that some very competent searchers under-estimated their searching skills while some less competent searchers over-estimated their searching skills. While the gap between under- or over-estimation of searching skills in contrast to searching competence was most evident in two individuals (Zoe and Barb), almost all the participants showed evidence of some under- or over-estimation of searching skills.

This trait is known as the Dunning-Kruger Effect (Kruger and Dunning, 1999). In their study, psychologists Kruger and Dunning reported that less accomplished individuals, whom they identified as novices, lack the metacognitive skills to recognize their own incompetence, are “systemically more miscalibrated about their ability” and over-inflate their abilities (p. 1122). Competent, accomplished individuals “who were far more calibrated than were their less skilled counterparts, tended to underestimate their performance relative to their peers” (p. 1126). While accomplished, experienced
individuals possessed the metacognitive skills to assess their own competence, Dunning and Kruger found that experienced individuals “did not underestimate themselves because they were wrong about their own performances, but rather because they were wrong about the performance of their peers” (p. 1126).

Table 8 displays the Dunning-Kruger Effect as revealed in the searching skills and abilities of the participants’ information seeking behaviour and displays the continuum from under-estimation to over-estimation of searching skills in contrast to searching competencies.

**Table 8: Dunning-Kruger Effect Revealed in the Information Seeking Behaviour**

<table>
<thead>
<tr>
<th>Under-estimation of searching abilities</th>
<th>Neutral estimation of searching abilities</th>
<th>Over-estimation of searching abilities</th>
</tr>
</thead>
<tbody>
<tr>
<td>Self-assessment under-estimates searching skills, lack of confidence in searching skills</td>
<td>Self-assessment of searching skills is realistic assessment of searching skills</td>
<td>Self-assessment over-estimates searching skills, high confidence in searching skills</td>
</tr>
<tr>
<td>Evidence reveals that searching skills are high, strong, well developed</td>
<td>Evidence corroborates self-assessment</td>
<td>Evidence reveals that searching skills are low, weak, under developed</td>
</tr>
</tbody>
</table>

**Continuum of searching skills from under-estimation to over-estimation**

<table>
<thead>
<tr>
<th>Under-estimation of skills/ High searching skills</th>
<th>Neutral estimation of searching abilities</th>
<th>Over-estimation of skills/ Low searching skills</th>
</tr>
</thead>
<tbody>
<tr>
<td>Zoe, Jane, Ellen, Emily, Cathy, Mary, Fran, Val, Bruce, Brenda, Lisa, Rose</td>
<td>Alice, Grace, Karen, Vicky, Barb</td>
<td></td>
</tr>
</tbody>
</table>

Participants of this study who over-estimated their searching abilities (Alice, Grace, Karen, Vicky, and Barb), tended to view their searching experiences with a positive, confident perspective and were satisfied with their searches and search outcomes. They were also less likely to evaluate their searching processes and approaches. Participants with a realistic assessment (Mary, Fran, Val, Bruce, Brenda,
Lisa, and Rose), as well as those who under-estimated their searching skills (Zoe, Jane, Ellen, Emily, and Cathy), tended to be more reflective about the process and were less satisfied with searches and search outcomes. These participants were more likely to question search approaches and outcomes even after searching was concluded and were therefore more likely to refine their strategies in subsequent searches.

Gross and Latham (2012) tested the Dunning-Kruger Effect in their study investigating first year college students’ self-views of ability with information literacy skills and reported a “miscalibration between self-view of skill and actual skill” (p.574) among their participants. They also reported that students who over-estimate their searching abilities are most in need of assistance, but since they do not recognize their need are unlikely to seek assistance. Gross and Latham challenged the assumption that students’ familiarity with technology supports and contributes to sound, well developed searching abilities. Findings about the Dunning-Kruger Effect as reported in the Gross and Latham study corroborate the findings of this study with the exception of asking for assistance. Whereas Gross and Latham found that students who over-estimated their abilities were not likely to ask for assistance, this study found that most participants, regardless of searching ability, were not likely to ask library staff for assistance.

This finding has implications for practice with respect to assumptions about searching skills and information literacy sessions. If library staff were familiar with the Dunning-Kruger Effect and ways to identify it, they could incorporate this knowledge within searching sessions for distance/online learners and the general student population.
4.6.5 Searching appeal/ satisfaction

All participants, including those who were confused or frustrated with searching, indicated that searching was an activity with appeal that gave them satisfaction when the search produced information. Participants emphasized that as distance/online learners the vast online resources and sources of information made searching accessible, convenient, timely, and easy for them. Their overall assessment of their searching experiences was associated with the flexibility of time, the ease of being able to search and conduct school work online in the comfort of their homes, and an interest in searching for information. The attraction and the convenience of online learning and online searching were mutually beneficial for these distance/online students. Most participants credited technology as the tool that made it possible: “it’s so easy now with technology”; “I couldn’t have done this before – when there were not computers”. For most participants – just over two-thirds – their mention of access to vast online resources referred to their searching experiences with and reliance upon Google, Google Scholar, Google Books, and Wikipedia.

Satisfaction with the search results was articulated in various ways but was evident in descriptions of search strategies, reasons for searching, motivation to find information to meet an information goal, decision making about the search process, and expressions of confidence or enthusiasm when the information was found: “I always find what I’m looking for”; “I knew it was out there, and so when I found it, it was great”; “there is an emotional satisfaction – you feel satiated”; “when the knot has been untied and you get it”. Satisfaction was also evident in their interest and curiosity for searching: “I love searching”, “I want to learn”, “it’s interesting finding things out”; “I’ll stop for awhile, but then I’ll look again to see if there is anything new”; “when he said that, I
knew he was wrong and I was right – so I checked and sure enough, I was right”. This interest and curiosity supported their motivation, desire for independence and tenacity to search, even when challenges were encountered: “it can be hard figuring it out”.

Some participants experienced more enjoyment, excitement, and engagement with searching than others (“I love searching”), some expressed frustration or confusion with searching (“it might make sense to the librarian, but it doesn’t make sense to me”), some expressed mixed reactions (“it’s tricky, but you try different things and you find it – so it’s worth it”) and some were indifferent (“it’s pretty straightforward – it’s no big deal, I get what I need”; “it works out all right”). Despite the varied experiences, all the participants reported a sense of satisfaction with finding or discovering information – with reaching their information goal: “It isn’t always easy for me and I’m trying to figure the searching part out, but I think I’m learning and when I find what I need, I’m happy”; “it’s a good feeling to find what you need”; “I seem to be able to find what I need, so I think I’m getting better at figuring it out”. The reactions and responses – positive, negative, mixed, indifferent – were evident during the observations and in participant reflexive journals, corroborating the experience of search satisfaction.

4.6.6 Searching satisfaction

When they described their searching experiences, participants shared many examples of fact-checking information searches related to course schedule information, bus schedules, checking for definitions and spelling, restaurant guides, movie guides, time zones, geographic information, and maps. Participants expressed enthusiastic satisfaction for these searches as evidenced by the number and nature of examples provided in the interviews and the reflexive journals: “it was great to find the answer”.

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This satisfaction was evident during the observations when participants identified a search goal and then demonstrated their search approaches. Several participants took notes or e-mailed search results so they could return to their search results and/or continue their searches at another time. During the discussion following the observation, participants articulated their satisfaction in the search result. Search satisfaction for this type of searching was also revealed in the reflexive journals when participants recorded their search need, the search approach and the satisfactory result of finding what was needed.

4.6.7 Searching satisfaction as transformative experiences

Buckland explains that “information-as-knowledge” and “information-as-process” are intangible and in this form act to inform, change, or transform a person (p.351-352). As discussed in Chapter 2, Section 2.34, Budd (2005) takes the concept of being changed or transformed by information further by associating the transformative qualities of information with the phenomenological perspective. In particular, Budd describes the self-reflective concept of “being”, that is “being” consciously aware, as a self-reflective transformative process that diminishes the gap between the experience and interpreting the experience in order to understand and be transformed by the experience. It is Budd’s position that the self-reflective concept of being is a description of the information seeking process, that is, how individuals experience, interact, or enact information in order to transform this to knowledge and are changed as a consequence. If we consider that information seeking provides individuals an opportunity to attain a “deeper understanding of the nature or meaning of our everyday experiences” (Van Manen, 1997,
we can accept that the transformative experiences of information seeking are complementary to the phenomenological perspective.

Many participants shared stories about information seeking that revealed their lived experiences with the transformative nature and qualities of information. While the experiences varied in intensity and strength amongst the participants, nonetheless they shared in common transformative experiences with information: “I like finding things – you learn”; “I like to search – it’s very gratifying to find the one thing you’re looking for, the one thing you need for that paper – it brings it all together”; “I’m learning in my courses, but I’m learning how to find information, too”. The transformative qualities of information seeking were also evident in the descriptions and experiences some participants provided about searches that used several information resources, “you have to look in more than one place”, and searches that might continue beyond the immediate need of the moment, “you never really stop looking – it never really ends, one thing leads you to another”.

Emily best expressed how information and searching for information had affected her when she described helping her husband with his information searching during his graduate studies: “I became a searcher and I loved it; it gave me a boost and I realized I missed it”. She continued by stating that she has a “passion” for searching and explained “it’s different, I’m a sponge now and I want to get everything I can put my hands on”. Emily’s comment is a reference to her negative searching experiences as an undergraduate and how those experiences changed when she helped her husband and then further transformed her when she began her graduate studies. While helping her husband
with his searches may have been the catalyst, in Emily’s opinion, the key factor that created her passion to search and learn was the opportunity to take a degree online.

While the transformative experiences with information seeking are not specific to distance/online learners, within this group there seemed to be connections between the flexible options offered by distance/online learning and being able to search for information in the comfort of their own home at their own pace that contributed to the transformational nature of information. Transformative experiences for participants were evidenced by articulation of satisfaction, enjoyment, even pleasure when participants were informed by the search process and the information found, or when they learned or discovered something that would assist with searching for information. Transformative experiences for participants were also evidenced by the articulation of satisfaction when they could share and provide information to others or direct others to an information source.

4.6.8 Reasons and purposes for searching

Participants of this study had several reasons and goals that motivated them to search for information. As this study investigated the information seeking experiences of distance/online students, it was natural for participants to report that school-related reasons were the main purpose to search for information. In addition to school-related reasons, other examples given were work related as well as a diverse and fascinating range of personal reasons.

A twist on the usual reasons for searching emerged when three graduate student participants reported that they conducted searches in order not to find information. There were three reasons underlying this motivation. First, they hoped not to find evidence of a
tangential or divergent perspective that would need to be integrated into their work.

While they were not opposed to divergent opinions, the concern overlapped with the dilemma of when to end the search, how much information should be included in their assignment, and the time pressure of rewriting their work to incorporate newly retrieved information while still meeting the deadline date. A search that concluded with *not* finding information elicited a sigh of relief. The second reason was motivated by the need to find everything they could on a topic – *not* finding information in this context assured searchers that they had not missed or overlooked critical information on their topic. The final reason was specific to those students preparing a thesis topic or thesis proposal – while they were not averse to finding some research related to their topic, they did not want to find research *exactly* on their topic researched *exactly* the way in which they proposed to investigate the topic.

Searches conducted *not* to find information, as acknowledged by the participants, were more diligent, persistent, creative, and involved slightly higher drive or intensity in comparison to searches they usually conducted. One individual, for example, was obligated to be aware of and to provide information that was technically accurate and compliant with legislated protocols, standards, and practices. Overlooking, failing to find, or “being wrong” about information was a matter of legal liability. Another individual asked: “is it plagiarism when I have a brainwave or an idea and *then* find the same idea discussed in the literature but I don’t cite that source? – well, it is plagiarism, I can’t miss anything, I have to be thorough so I can cite the information and not plagiarize, even by accident”.

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Driven by the need to “not miss anything” and “not find anything” suggests these searches required a higher level of critical thinking, judgment, problem solving skills, and greater attentiveness to the search process on the part of the individual. It also suggests that the graduate students of this study had a well-developed and stronger awareness of the appropriate and ethical use of information.

4.6.9 Discovering information incidentally

While most reasons for searching for information were purposeful, more than two thirds of the participants had also discovered or encountered information by accident or through serendipity: “it happens all the time”; “that’s happened to me – it’s strange how that happens, but it does”. The experiences occurred in several different ways: conversations with others, from media sources (TV, radio, internet, newspapers, newsletters, broadsheets left in buses, magazines displayed in stores), browsing through books, browsing the internet, or as a result of searching for a topic and coming across information about something else that either piqued their interest or was related to a school topic.

Incidental information seeking, explored by Erdelez (1997) and Williamson (1998), acknowledges ways in which individuals discover information unexpectedly. When participants discovered information serendipitously, they described such incidents as “ah-ha” moments or validation (“I knew it!”) that confirmed and reinforced their sense of satisfaction at discovering information. The incidental discovery of information was sometimes more exciting – because it was unexpected – than discovering information during a purposeful search. However, the serendipitous discovery of information was unrelated to searching skills or level of searching ability; novice searchers as well as
skilled searchers provided examples of incidental discovery of information. Incidental discovery of information was more closely related to general and genuine curiosity – an openness to the possibility, potential and process of learning and discovery – than to searching skills.

4.7 Searching for Information: First Thing to Come to Mind

When participants were asked: When you think about searching for information, what comes to mind for you?, the response from participants was the simple statement: “Google”. While about one third of participants’ responses varied slightly with comments such as “finding answers”, or “online searching”, or “having access to search engines”, those comments still included references to Google. About half the participants extended the single response “Google” to include Google Scholar, Google Books, or Wikipedia. One participant who used Google almost exclusively had not heard of Google Scholar and four participants commented they had “tried Google Scholar – but it’s confusing”. One participant identified several information sources, including library resources as part of her answer along with Google, and two participants did not mention Google, but described use of licensed scholarly sources and acknowledged use of Google Scholar.

The stated preference for Google was corroborated by participant searching behaviour during the observations: the starting point for fourteen participants was Google, while three participants initiated a search in a licensed library index. Comments reported in the reflexive journals that described searching experiences also confirmed the preference for Google. For more than two-thirds of the participants of this study, Google was the preferred tool and source for information seeking for many reasons which are discussed below. The preference for Google appeared to foster a familiar and valued
reliance that helped participants make sense of their everyday lived experiences with information seeking, a role similar to that described by Savolainen (1995, 2008) in his discussion of preferred information sources and problem-solving. More recent reports about the reliance of Google as a search tool cite convenience, familiarity, simplicity of the single search box feature, and the reliability of quickly returned results (Connaway, Dickey, & Radford, 2010; Duke & Asher, 2012; Head & Eisenberg, 2009). It was clear that whereas libraries, library services and library resources were not top of mind for these participants, Google was an influential ever present entity that commanded an integral position in their academic life-world.

4.7.1 Google use and searching skills

Participants with high searching skills and high domain knowledge (see Table 7 Levels of searching ability and domain knowledge, section 4.6.3 and Table 8 Dunning-Kruger Effect revealed in the information seeking behaviour, section 4.6.4) rarely used Google, but those with low domain knowledge and low searching skills frequently relied on Google. Among the 17 participants, the searching skills of two individuals, Barb and Zoe, stand out as being indicative of low searching skills and high searching skills respectively. Barb relied on Google almost exclusively, while Zoe never used Google. The rest of the participants are clustered between Barb and Zoe with searching skills and domain knowledge that range from low to high. Table 9, below displays the relationship between Google use and domain knowledge, and searching skills/search behaviour.
Table 9: Google Use, Searching Skills/Behaviour and Domain Knowledge

<table>
<thead>
<tr>
<th>Searching skills, domain knowledge and Google use</th>
<th>Searcher categories/search behaviour and participants</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Participants</strong></td>
<td>Novice</td>
</tr>
<tr>
<td>Barb</td>
<td>Rose</td>
</tr>
<tr>
<td>Brenda</td>
<td>Karen</td>
</tr>
<tr>
<td>Vicky</td>
<td></td>
</tr>
</tbody>
</table>

Searching skills and domain knowledge increase /while Google use decreases

<table>
<thead>
<tr>
<th>Searching ability</th>
<th>Novice</th>
<th>Intermediate</th>
<th>Advanced</th>
</tr>
</thead>
<tbody>
<tr>
<td>Low</td>
<td>Low</td>
<td>Mid/high</td>
<td>High</td>
</tr>
<tr>
<td>Low</td>
<td>Low/mid</td>
<td>Mid/high</td>
<td>Mid/high</td>
</tr>
<tr>
<td>Low</td>
<td>Low</td>
<td>High</td>
<td>High</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Domain knowledge</th>
<th>Novice</th>
<th>Intermediate</th>
<th>Advanced</th>
</tr>
</thead>
<tbody>
<tr>
<td>Low</td>
<td>Low/mid</td>
<td>High</td>
<td>High</td>
</tr>
<tr>
<td>Low</td>
<td>Low</td>
<td>Mid/high</td>
<td>Mid/high</td>
</tr>
<tr>
<td>Low</td>
<td>Low</td>
<td>High</td>
<td>High</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Google use</th>
<th>Novice</th>
<th>Intermediate</th>
<th>Advanced</th>
</tr>
</thead>
<tbody>
<tr>
<td>High</td>
<td>High/mid</td>
<td>Mid</td>
<td>Mid/low</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Low to never</td>
</tr>
</tbody>
</table>

Those with higher domain knowledge were more particular about information resources used for searching, were more discerning and critical of the information they retrieved and collected, and were attentive to the search process. These individuals were also more motivated to spend time conducting more thorough searches.

Most individuals with low or mid domain knowledge and low or mid-range searching skills relied heavily on Google and Wikipedia and to some extent, Google Scholar. These individuals were less discerning and critical of the information retrieved through Google. Finding information in Google was in itself validation of their searching skills and confirmation that Google was a reliable source of information.

4.7.2 Features appreciated about Google

When asked to expand on features they liked about Google and why they preferred Google, participants provided a variety of explanations: easy, fast, convenient,
good results, reliable, well known, gives options. Comments about convenience included
the layout, that it was user friendly, and it was readily available and immediately
accessible: “I can use Google from my house – I don’t have to move, it’s the first thing
that comes up on my computer screen”; “Google is my home page, it’s natural to start
there”; “I always have my Blackberry, I always use it to search Google no matter where I
am”. Participants commented on the searching features: “you can type in anything, even
questions, and you get answers”. One participant confided that she used Google as a
spellchecker: “sometimes it even says the word for you”. The idea of entering any kind of
term, phrase, question, or word – even if spelled incorrectly – and getting immediate,
usable results was extremely attractive for the participants. Participants were not required
to adopt a particular search form or particular search language to use Google – rather
whatever search approach was natural and intuitive to them would produce a useful
result.

Participants appreciated the “vast” resources and “vast” access to the answers they
were able to retrieve, whether those “answers” were for school, work or personal reasons:
“Google has everything, it is so…vast….it gives me what I need, it gives me answers”.
Google would lead them to images, graphs, dictionaries, blogs, directories, websites,
addresses, encyclopedias, maps, templates, news, weather, calculators, troubleshooting
guides, photos, YouTube, music, and games – the list was endless. This broad and diverse
list reveals a strong interest, curiosity and motivation that prompted participants to search
for and find information. More importantly, Google was a just-in-time and responsive
information source that immediately satisfied their information needs.
4.7.3 **Google searching**

More than two-thirds of the participants acknowledged that they are not sure what they are looking for when they need to begin a search nor are they sure how or where to initiate a search. Google resolved this dilemma and was an aid for initiating a search: “I start with Google and will go from there”; “if I don’t know a lot about a topic, I will throw a few keywords into Google, it gets my mind turning, many things pop up, many are irrelevant, but many are good”. Participants found it convenient to begin a search with Google because it led them to other information resources or sources: “I use Google or Google Scholar to just give me an idea of what’s out there, I’ll look up the subject on Google – if I find a book on Google Scholar I look online at the library and see if the book is there”. Those participants who were confident and proficient with Google Scholar used this tool exclusively to access licensed library resources: “the databases are confusing, Google Scholar is easier and it gets me to the scholarly articles”.

4.7.4 **Building the search from Google**

As Belkin (1980) found, people may be aware they have an information need, but are not able to articulate that need. This was evident in this study as participants described their experiences with an information need, the challenge of identifying or articulating that need, and the challenge of identifying or knowing the steps to take to fulfill that need: “when I start looking, I’m not sure what I’m looking for”. For most, Google accommodated what could not be articulated about their information need. The term Heidegger uses for tools that are handy, at hand, or convenient, is “handiness” (Heidegger, 1996) and others who have interpreted Heidegger use the term “ready-at-hand”, or “ready-to-hand” (Dotov, Nie & Chemero, 2010; Wrathall, 2006). In the
phenomenological context Google has “handiness” – Google is the “ready-at-hand” aid that helped participants articulate the information need, shape the direction of the search, and meet the information need. Google served to bridge the gap between the information need and the information, but it also minimized the gap by providing immediate just-in-time results, thus saving valuable time for the participants.

The term Heidegger used for an obstacle encountered is “unhandy” (Heidegger, 1996, p. 69) and others refer to this state as “unready-at-hand” or “unready-to-hand” (Dotov et al., 2010; Wrathall, 2006). Two thirds of the participants started their search with Google and moved on to other resources, but when their search faltered they returned to Google as a way to uncover other searching ideas or perhaps determine how to approach the topic differently: “Google searching doesn’t stop at the very first site that you go to, it is returning [to the beginning of the search with Google] and see what options you have and going from there”; “when I’m stuck, I use Google”. This suggests that when participants encountered difficulties, “unready-at-hand” in the phenomenological context, they would step back for re-analysis, identified in the phenomenological context as “being with” or “present-at-hand”, and return to Google. Google represented the “present-at-hand” tool that assisted with and resolved searching challenges. It also suggests that when participants encounter uncertainty, exemplified by stage three of Kuhlthau’s Information Search Process, the zone of intervention and mediation for these distance students came in the form of Google as opposed to assistance from a librarian.
4.7.5  Perceptions about Google

Analysis of participant use of Google revealed positive perceptions about Google, as evidenced by this comment:

Google gets you the best results, Yahoo gets you a lot of goofy results but Google has Google Scholar and Google Books; you get valid results - if you just type in ‘infection control’ you get way more relevant and pertinent results. When you go into any of the other search engines they give you such a broad spectrum that have nothing remotely to do with what you’re looking for – I don’t know how other search engines are set up but it takes longer to go through them and using Google is way quicker and you get what you need - the relevant information.

Other participants echoed these comments about the reliability of searching Google. Several participants expressed the belief, based on their experiences with Google, that Google would always return the most relevant results first: “it prioritizes the most relevant content on top” and “I find the results that come up are quite vast and relevant as compared to other search engines that I’ve used that are sometimes biased”.

The comment about bias is revealing; although most participants were aware that some information can be biased or have a particular perspective, novice searchers were less likely than intermediate or advanced searchers to question whether or not results from Google could be biased. The novices accepted results in Google at face value with very little judgment or assessment, assuming that the first results were the “right answer”. In their experience, Google had somehow determined the “answer” to their query: “I don’t how Google does it, but the first thing up is always what I want”. Discerning searchers were more cautious with Google results, but even among this group, individuals used Google results as a benchmark against searching strategies and search results from other sources.
Although the more skilled and discerning searchers were cautious in their use of Google and in their acceptance of the first results of a search, they still generally believed that the “most relevant content” would be displayed first. The varying attention given to relevance and bias, dependent on searching ability, was replicated during the observations; novice searchers were more likely to accept the top results at face value than were the more skilled or discerning searchers who would search further and spend more time. This was particularly evident during the observations when one novice searcher used Google to demonstrate her usual search techniques; in just less than five minutes she had found what she referred to as the “right answer”. She entered a search term and indicated her immediate satisfaction with the search results. In contrast, other participants spent more time assessing results and refining searches and demonstrated a more intense level of engagement with the search process. One informant, however, offered a slightly different viewpoint of Google: she explained that in addition to searching for scholarly information through library resources she was often interested in information reflective of a popular and counter-mainstream bias or perspective. This individual believed that it was valuable to have a wide and balanced understanding of many perspectives on a topic, and consciously used Google to find this type of information.

One of the most curious perceptions was revealed by a participant who stated with confidence that “library resources are powered by Google”. From this understanding she had reached two conclusions: first, that library resources were somehow organized or supported by Google, and second, because these resources were “powered by Google”, they were reliable and trustworthy. When I probed further, she was unclear about why or
how the resources might be “powered by Google”, but explained she had this understanding “because a librarian told me”. She was unable to expand further, but I suspect that the librarian had explained that searching Google Scholar would link her through to the library’s licensed scholarly resources.

4.7.6 Vastness of Google

The “vast” results that participants mentioned as a desirable feature about Google suggests that the attribute of “vast” meant a great deal of information was available and accessible, but it also suggests that “vast” was associated with relevance, reliability, and the “right” answer: if there is lots of information, “vast” information must be better for “getting good results” or “getting the right answer” or “reliable information”. The vastness – the breadth and depth of information – was perceived as originating from Google in a seamless flow of information. Google, therefore, was not understood as a tool or a directory leading to information sources, but rather as an information provider, the repository or bank of the information, regardless of source or website. This was evident in many descriptions of their searching experiences whether those were for school, work, or personal reasons. Whatever they were looking for, they reported: “I found it on Google”.

4.7.7 Assessment of Google results

Although participants loved using Google for searching, and reported searching success, about one third of them acknowledged that searching Google could be frustrating. They reported dissatisfaction with getting too many results, no results, or irrelevant results, and then being uncertain about how to refine the search for relevant, specific results. Searching frustration or unsuccessful Google searches, reinforced
participants’ perceptions that they were not tech savvy, and they concluded they were not tech savvy enough to find information successfully. Similar to the results of Gross and Latham (2012), this study also found that familiarity and comfort with technology is unrelated to searching skills.

Positive experiences with Google searches influenced participants’ positive perceptions about information found through Google. Positive experiences using Google as a search tool to quickly obtain what appeared at first glance to be relevant results influenced participants to think more favorably about the actual information found through Google, and to assess the results less critically. Skilled searchers among the participants – Ellen, Zoe, Fran and Emily – were less influenced by Google as an all-reliable source and were therefore more conscientious about evaluating information found in Google. Ellen, Fran and Emily rarely used Google for school or work related searches; Zoe never used Google for school or work related searches and only occasionally used Google Scholar. During work-related searches, Fran consistently took steps to corroborate Google results with authoritative sources, such as scholarly articles, books, entries in encyclopedias, or information on government and professional association websites. Those participants (Ellen, Bruce, Emily, Jane, Mary, Lisa, Fran and Zoe) whose studies mirrored their careers relied on information found through professional association websites as authoritative sources of information, either as an initial source of information or as a corroborating source to information that may have been retrieved from Google.

Perceptions aside, participants had various strategies to evaluate Google results for reliability, such as checking the domain of sites found through Google for “.edu”
(domain associated education sites in the United States), or “.ca” domain names when Canadian-based sources were needed, or “gov.ca” (domain used by the Government of Canada websites). Information results from a Google search would be compared with information results from various sites discovered through Google searching. A few participants noted that Wikipedia is “semi-scientific” and “not always spot-on or scholarly”, but they still used it to gain a basic understanding of a topic, and to verify or corroborate other information found through Google. The more discerning searchers relied on Wikipedia for the references attached to an entry, rather than the content of the entry itself, indicative of a higher level of analytical and critical thinking skills. When information found on Google confirmed or fit with some prior knowledge, this was another form of validation or assessment for participants.

Google was more than a search tool for the participants as it fulfilled many needs: it was a process, dependable guide, friend, mediator, and touchstone. The positive searching experiences with Google created favourable perceptions and presumptions about this tool, which informed and shaped the participants’ overall searching strategies and approaches.

4.8 Google and Beyond Google: Information Sources/Resources Accessed

Typically, Google marked both the start point and the end point of the search for novice searchers who were satisfied and confident with the information retrieved from a Google search. Among the novice searchers, Vicky, Grace and Barb placed a higher value and confidence in Google results than all other participants and were less likely to move beyond Google to use other information sources.
While all novice searchers and some intermediate searchers relied heavily on Google, they were aware of library information sources beyond Google and used those sources to collect additional information. However, they tended to use only one to three library resources (such as the catalogue and one or possibly two indexes) and when those resources were used they were used superficially. Brenda, Vicky, Rose and Karen, for example, rarely or never used online resources; physical use of the library was occasional, but during those visits, they preferred browsing the shelves in the subject area(s) of the library for print materials to searching the library catalogue. Barb, Alice, Val, and Lisa were aware of online indexes, but relied primarily on one index when searching for articles. Confidence in Google as well as time constraints and low motivation combined with weak searching skills were determining factors that appeared to prompt these participants to end their searches with Google instead of extending the search to library resources.

Participants with well-developed searching skills, notably Emily, Ellen, Zoe, Jane, and Fran typically avoided Google or moved beyond it to use library resources. Those who did take the extra steps to search library resources had searching behaviour patterns that were persistent, evaluative, and methodical.

4.8.1 Preferences for print monograph resources

In general, participants avoided the physical use of libraries and preferred not to use print sources. However, some participants reported that they occasionally visited the library to use print monographs. Novice searchers Brenda, Vicky and Rose indicated that they sometimes used print monographs as information sources for assignments, but that they usually avoided searching the catalogue to locate books, preferring instead to browse
the shelves of a specific subject area. The preference for locating print monographs under these circumstances was related to convenience, perceived saving of time, and the ease of access to books, in contrast to the time and frustration of using the catalogue. Use of the print resource provided a sense of comfort and familiarity associated with holding a book in one’s hands, as well as recognition of a book as an authoritative source. These reasons, combined with the student’s lack of self-confidence with the overall academic experience, inadequate or tentative searching abilities, narrow awareness of the availability of scholarly articles, and limited awareness of how to search and access articles, strengthened the appeal of the print resource.

Participants with intermediate searching skills – Lisa, Cathy, Karen, and Alice – revealed that despite previous frustrating experiences with libraries, they sometimes used monographs to supplement course materials or support information found through Google searches. For these four individuals, the decision to use library print resources also supported a strategy candidly referred to as “cheating” and “name dropping” which will be discussed further. Intermediate searchers were cautious about information from Google: they believed that this information was not appropriate for academic work and recognized that they should use a more trustworthy source. When participants intended to use library print resources, they first performed a brief catalogue search to retrieve title and shelf location information for possible sources in the desired subject area. Determining search terms was described as a “hit and miss” effort that might require more than one attempt to bring up relevant results. After a quick, superficial catalogue search, participants relied on browsing the shelves of that subject area. Once the participant identified the shelf location, they rarely used the catalogue again to locate
additional titles or subject area locations. In these instances the desire to browse print monographs outweighed the inconvenience of physically travelling to the library and the frustration with the catalogue. By-passing the catalogue to browse the shelves was a decision also influenced by time: “I don’t want to take a long time, I can’t be bothered, I just go to the shelves, grab what I need and I leave”; “I don’t want to spend too much time – I find what I need and leave”.

It was evident that participants with weak searching skills and those with slightly stronger, but still not well-developed searching skills, were unaware that print monographs are likely to be shelved in more than one subject area and as a consequence, they would overlook or miss items in related subject areas. The heavy reliance on browsing meant that participants also missed electronic monographs. While participants were aware that other works and resources might be missed due to browsing, this drawback was offset by the pleasure a few of them, notably Brenda, Lisa and Mary experienced while browsing the shelves and the possibility that browsing could lead to some unexpected finds that supported their assignments. For other participants, browsing was more about self-reliance, efficiency, saving time, and avoiding the frustration from using the catalogue – viewed as a clunky, cumbersome and unnecessary tool – for searching. Very few participants asked for assistance with the catalogue or to find resources; participants preferred to be self-sufficient, a finding reported in other literature (Duke & Asher, 2012).

Browsing search behaviour was influenced by time – specifically reluctance, as well as impatience, about the time needed to use the library catalogue – and by motivation to find resources in support of information found through Google. Browsing
as a search preference was also influenced by lower level searching skills, lack of confidence and familiarity with library search tools, a desire to be self-reliant and a reluctance to ask for assistance. Behaviours resulting from the desire for self-reliance, such as a reluctance to ask for assistance, as identified by Duke and Asher (2012), are similar to the self-protective searching behaviours found by Chatman (1996) and behaviours resulting from library anxiety, as identified by Mellon (1986).

4.8.2  *Preference/use of electronic monograph resources*

In general, participants had mixed feelings about electronic monographs or e-books and only half reported any experience with this resource. Novice searchers who browsed for print monographs (as just described) were likely to miss electronic monographs and if they did discover these during a catalogue search tended to avoid them due to uncertainty about how to navigate the pages and due to frustration with and a distaste for reading a great deal of content on the computer screen. More confident and skilled searchers would use electronic monographs and valued the convenience of being able to access this type of resource online, but also articulated frustration with access and use. As licenses for electronic monographs often restrict numbers of simultaneous users, some participants had encountered access problems due to this restriction, and expressed their annoyance: “what’s the good of that?” A few participants described how attempts to print the online books had met with limited success; some were aware this was due to copyright restrictions while others were uncertain why printing was not an option. Participants wanted to print content from an e-book for ease of reading as well as to highlight and write notes. Overall, however, participants who had experienced electronic monographs articulated an aversion to reading content online, as well as negative
experiences with ease of use and navigational issues: “they’re confusing to use, I can’t figure them out”; “I avoid them if I can, but sometimes, you have to use them”.

A few of the more experienced searchers also found digitized monographs through Google Scholar, but were frustrated when only portions of the book were available, a relatively common occurrence with this electronic resource. When participants encountered this situation some would try to find the item through the library either in print or electronic format, or might try to request the item through Interlibrary Loan (ILL), but most did not bother to pursue this option and would elect not to use the item.

While it seems that e-books would be helpful to distance/online students in meeting their information needs, participants of this study were generally not impressed with this option. This finding is similar to that of the 2004 study conducted by Croft and Bedi who reported mixed feelings toward adequacy of e-books among 460 respondents, and to that of the 2012 study conducted by Brahme and Gabriel who reported mixed reactions among the 37 distance students surveyed about e-book use.

4.8.3 Experiences with links to resources

About one third of the participants reported that some instructors provided links from online course shells to library resources, library web pages, or other online resources. Clearly this is intended to be helpful, but participants reported mixed experiences and reactions. Some participants ignored these links in favour of their own searching routines: “I do better on my own”, some used the links and successfully accessed the resources, and others used the links, but reported confusion once they accessed the site or page. A few participants had encountered broken links or links to
pages they did not think were the right pages: “I got there, but it didn’t seem right, so I didn’t bother with it”; or “I tried to click on the link, but for whatever reason, it never worked for me – this was a deterrent”. When participants encountered challenges with links, they did not seek assistance or notify instructors, librarians or technical support, but moved on by returning to familiar sources and searching approaches, or ending the search.

These experiences with resource links and e-books reinforce findings related to participant desire for self-reliance and to perceptions of not being tech savvy. When participants experienced navigational issues, technical barriers, or confusion with webpage formats or electronic platforms, they perceived the technical hindrances as resulting from their own limitations with technology. As with the e-books, participants were frustrated and/or impatient when they encountered hindrances to following resource links, and as a consequence were not motivated to ask for assistance that might have resolved their difficulties.

4.8.4 Experiences with licensed indexes

Most participants, with a few exceptions (notably novice searchers such as Brenda, Vicky and Grace), searched primarily for articles to meet school-related information needs. Other than the participants with well-developed searching skills (notably Fran, Ellen, Emily, Jane, and Zoe), twelve participants equated searching for articles with searching on Google, and acknowledged that Google was the preferred starting point for a search. Confident and skilled searchers (Zoe, Jane, Ellen and Fran) were more comfortable navigating the library pages to access and search the licensed indexes. These searching experiences and patterns revealed in the interviews were
supported by reports in the reflexive journals and the observations; as previously stated, three participants initiated a search in indexes during the observations.

Searchers who moved beyond Google or by-passed Google to search licensed library indexes reported experiences that revealed levels of comfort ranging from tentative to confident, and levels of use with those resources ranging from avoidance to limited use, and finally to a broader and more in-depth exploration of library resources. It must be noted that during the data collection period for this study, the academic libraries accessed by the participants had not yet implemented navigational tools known as discovery layers, such as Summon (a product developed by ProQuest, n.d.), or Encore (a product developed by Innovative Interfaces, 2014), that give searchers the ability to search for multiple resources, indexes and formats directly through a single interface. Therefore, at the time of this study, searches through the library pages for library resources typically involved a series of separate search steps to access different types of resources and different indexes. Searching experiences reported by participants in the interviews, and reflexive journals reflect searching experiences and behaviour within those parameters.

4.8.5 Experiences accessing and using indexes

Indexes accessed and used were typically the specific EBSCO Host products such as Academic Search, PsycInfo, ERIC, and CINAHL, with Academic Search cited the most frequently as a preference. One third of the participants were very clear about which indexes were used and could identify them by name: Academic, ERIC and CINAHL for example. However, the rest were vague about the names of the EBSCO indexes accessed and did not distinguish the EBSCO products by specific name: “I use EBSCO”; “EBSCO
is great, I always use it”; “I use it a lot, I think it’s called EBSCO”. It became evident that EBSCO was synonymous with Academic Search. Probing for details helped them remember names, which also confirmed their preference for Academic Search. If probing did not elicit a specific name, they were able to provide sufficient distinguishing details: “it has psychology articles” (PsycInfo), or “it’s not EBSCO, but sometimes I use it to find science articles” (Science Direct), from which I could determine the name of the index – a detail participants were able to confirm once they heard the name: “Science Direct, that’s what it’s called, yes I used that one a few times – I don’t really like it, Academic is the best one to use”.

When asked about which indexes were accessed and how they were used participants provided descriptive comments about layout, location of access point on a page, design, or predominant colours along with features they liked about a particular index: “it’s easy”; “it gives you full text”; “you can tick the box for scholarly articles”; “you can e-mail the articles in APA style”; “I find what I need”. About one third of the participants noted that Academic Search could be “tricky to find and you have to know what you’re looking for.”

Four participants mentioned they had used Science Direct, Web of Science, Medline, and PubMed indexes, but these were cited less frequently than Academic Search. For the most part, the four participants described their usage of these tools with confidence, but frustration was also evident. Since most participants expressed a preference for EBSCO, I was curious if participants had used other indexes so during the interviews I probed further. Participants taking Humanities, Social Science, and Education courses were asked about non-EBSCO indexes generally associated with those
particular disciplines: JStor, Humanities and Social Sciences, and Sage. Students in Sciences, Health Sciences, and Allied Health courses were asked about Medline, Science Direct, and SpringerLink. Most had not heard of the non-EBSCO indexes. One participant had heard of Medline but did not use it, another indicated familiarity with Science Direct: “I think I might have heard of that one….I think I tried that one once”, and another indicated awareness of JStor: “I used JStor for a history course, but I lost the link the prof gave me and I didn’t know how to find it – when I took my anthropology class I asked the prof for the link – but she hadn’t heard of it, I guess JStor is just for History – so I didn’t bother with it”.

When they encountered frustration with the indexes, all participants returned to familiar sources and search patterns, and for most participants this meant returning to Google. This suggests that participants employed this “return to the familiar” approach both as a searching strategy and as a way to manage barriers. Their decision to return to the familiar also reinforces the finding that participants wish to be self-reliant with searching rather than seek assistance. At points of uncertainty, these participants generally retreated to familiar, trusted routines, rather than seek mediation or intervention from a librarian or instructor.

4.8.6 Index preferences

I was interested in learning if participants explored different indexes, tended to search one index, or if they were strategic about their index selection in order to search an index with a particular discipline/subject focus complementary to an assignment, but different from the discipline-specific indexes they usually accessed. For example, would an education student explore health related indexes, or would a psychology major search
a business resource for human resource information if their topics warranted such a search?

Although experienced searchers were more likely to have greater awareness of index features, more likely to remember the names of indexes they used, and more cognizant of how to access and navigate the indexes, none of the participants were strategic about index selection. Of the participants who used indexes, most relied on one preferred index while less than half occasionally used two or three indexes. This could suggest a lack of evaluative skills in assessing and organizing their search approach, but it could also suggest, as mentioned above, that access to these resources is unduly cumbersome and does not encourage exploration of a variety of resources. This also suggests a lack of knowledge about the availability of the indexes, part of the larger picture described earlier in which library resources and services have a low profile.

Searchers, especially tentative ones, relied on one index, typically Academic Search, rather than explore other indexes with content more focused on a particular topic or discipline. Those informants who reported participation in a library instruction session(s) revealed that Academic Search was the index shown to them. As a consequence, general familiarity with this index, and because it was the one source introduced in an instructional session, seemed to influence the continued preference for Academic Search. Those with stronger, well-developed searching skills, less than one third of the participants, stated a preference for EBSCO Host products: Academic Search, ERIC, CINAHL, PsycInfo. They tended to use one index regularly and a second index less frequently. Two participants with the strongest, well-developed searching skills used medical indexes (PubMed, Medline on the Ovid platform) predominantly with a stated
preference for using one index. The participant enrolled in an LIS program had the greatest familiarity with a range of indexes, but also tended to rely on two indexes regardless of the topic or the focus of the assignment.

Participant experiences and preferences for indexes reveal searching habits and routines: participants used familiar access points, familiar sources, and familiar indexes and once those routines were established, participants rarely switched from their preferred information source. As a consequence, participants were most comfortable using familiar indexes, usually one or two, and were unlikely to explore other indexes outside their familiar comfort zone, even if those other indexes had content more focused on the search topic. This finding corroborates Savolainen’s (2008) discussion of searchers’ information source preferences and information zones.

4.9 Sense-making – Strategies/Influences when Searching for Information

Participants of the study were aware that information accessible through library sources was organized according to a “system” and, as noted earlier, some were more mystified by that system than others. Participants also believed that there was a method to “crack the code” to the system in order to find information and some were more persistent than others in determining how best to crack the code when searching library resources.

All the participants developed a set of searching strategies although some informants had more successful searching approaches than others and some were more astute and analytical regarding the limitations of their strategies: “there might be a different way to do this, but this is what works for me”. Most study participants expressed confidence in their set of strategies: “it works for me”; “I guess you could say I
have a system – it makes sense to me”; “I always use Google and I always find what I’m looking for”, even if that confidence was misplaced or led them astray during the searching process: “I just throw in a word and see what comes back”. The confidence expressed about their personalized set of searching strategies is indicative of their strong desire for independence in their search for information. Because the search strategies and approaches were so personalized, participants may have hesitated to share search ideas and tips with classmates: “I don’t know if I could explain it to someone else – it’s not something that you can necessarily explain, mostly people look in the same places – like Google”.

In analyzing the strategies participants applied to searching, relationships were found between the sense-making approaches and searching behaviour and further analysis revealed that their strategies influenced searching behaviour. The sense-making approaches can characterized as Affect, Task and Cognition in relation to the search behaviour categories of Novice, Intermediate and Advanced as illustrated in Table 6, section 4.6.1. Table 10 displays the sense making strategies employed by the participants in their searching experiences that influenced searching behaviour.
Table 10: Sense-Making Strategies/Influences Evident in Participant Searching

<table>
<thead>
<tr>
<th>Sense-making strategies/influences</th>
<th>Search behaviour categories</th>
</tr>
</thead>
<tbody>
<tr>
<td>Strategies/influences</td>
<td>Novice searchers</td>
</tr>
<tr>
<td><strong>Affect</strong></td>
<td></td>
</tr>
<tr>
<td>Curiosity, interest, drive, need, focus (intensity varied in participants)</td>
<td>Barb, Brenda, Vicky, Rose, Val, Grace, Alice</td>
</tr>
<tr>
<td>Patience, tenacity (intensity varied in participants)</td>
<td>Val, Grace, Brenda, Alice</td>
</tr>
<tr>
<td>Impatience (intensity varied in participants)</td>
<td>Vicky, Barb, Rose</td>
</tr>
<tr>
<td><strong>Task</strong></td>
<td></td>
</tr>
<tr>
<td>Google: to initiate a search</td>
<td>Barb, Brenda, Vicky, Rose, Val, Grace, Alice</td>
</tr>
<tr>
<td>Google: return to Google when search falters</td>
<td>Barb, Brenda, Vicky, Rose, Val, Grace, Alice</td>
</tr>
<tr>
<td>Google Scholar to search for articles</td>
<td>Barb, Rose, Val</td>
</tr>
<tr>
<td>Browsing library shelves in a subject area</td>
<td>Brenda, Vicky</td>
</tr>
<tr>
<td>Multi-tasking: checking other information sources for search ideas</td>
<td>Barb, Val, Grace, Alice, Rose</td>
</tr>
<tr>
<td>Multi-tasking: checking other information sources to corroborate information</td>
<td>Alice, Rose, Grace</td>
</tr>
<tr>
<td>Multi-tasking: personal activities as a reflective break from searching</td>
<td>Barb, Alice, Rose, Grace</td>
</tr>
<tr>
<td>Tasks to manage search &amp; material; using terms from sources collected</td>
<td>Rose, Val, Alice</td>
</tr>
<tr>
<td><strong>Cognition</strong></td>
<td></td>
</tr>
<tr>
<td>“Talking it through” with a trusted source</td>
<td>Rose, Alice</td>
</tr>
<tr>
<td>Time: taking time to reflect/think about search strategies / problem solving</td>
<td>Val, Grace, Rose, Alice</td>
</tr>
<tr>
<td>Planning search approach</td>
<td>Val</td>
</tr>
<tr>
<td>Assessment: sources, process, materials</td>
<td>Val, Grace, Rose, Alice</td>
</tr>
<tr>
<td>Critical/analytical and synthesis of affect, task, cognitive of search process</td>
<td></td>
</tr>
</tbody>
</table>
4.9.1 *Making sense of the search process*

Indicators that participants were aware of a “system” and their experiences with “cracking the code” when searching library resources (i.e. the catalogue and indexes) are exemplified by these comments: “it seems to be organized in some way, I’m just not quite sure how”; “it can be tricky – you have to use the right words – that’s the tricky part”; “it’s picky about the terms – you have to know the right term and I don’t know the right term”; “it seems to be a bit ‘hit and miss’, you have to get inside the author’s head to figure out what words to use”; “I’m young, maybe when I’m older I’ll be better at searching”; and “there is a system, but only the librarians understand it – the system is more for them – so I do what works for me”.

In response to these experiences, all the participants had developed a set of searching strategies to help them understand that “system” and make sense of searching: “a prof gave me the tip of using the first three key words of an article title to search in Google Scholar and that was pretty useful”; “when I find an article that’s ‘spot on’, I look at the references, the abstract and the keywords, that usually gives me words to use for searching”; “I use the ‘find more like this’ button – I really like that – it helps me find more articles”; “I try to keep track of where I’ve searched and what words I used”; “I’ve created folders for each course and I keep everything in those folders”; “before I start searching, I write everything down: where I want to search, the topic and related topics that I’m looking for, the search words – when I’m organized, I start looking”.

4.9.2 *Influencing factors contributing to sense-making strategies*

In addition to the personalized set of strategies, it was evident that participants’ searching behaviours and experiences were influenced by characteristics and qualities
such as patience, curiosity, need, motivation, tenacity (“sometimes searching can take 
awhile – you have to take time with it; sometimes I leave it and come back to it”).
Conversely, searching experiences and behaviour were also influenced by impatience and 
lack of persistence (“I’m impatient, when I need something, I need it, that’s why I don’t 
bother asking for help, I can get it faster on my own”; “when I’ve found what I need, I 
move on – I never go back and look for more – I don’t need to and there isn’t time”).
These qualities in turn influenced participants in the development and use of their sense 
making strategies. As would be expected, participants with greater patience were more 
likely to assess and analyze the searching process while those who were impatient tended 
to conduct rushed searches and were less likely to assess the process.

4.9.3  *Sense-making through reflection*

Reflection on the searching process and approach took a variety of forms and 
varied in strength amongst the participants. Some searchers, for example were more 
attentive than others to the terms used during searches and would make adjustments to 
those terms as the search progressed. Others took notes to keep track of their progress and 
the retrieved results – they used these notes in subsequent searches. Less confident 
searchers, notably Brenda and Vicky, browsed the library shelves to collect monographs 
and then skimmed through the books for the needed information. They used this tactic 
when their searches using library resources faltered and this was an approach that was 
more intuitive and more logical to them than struggling with the library catalogue and 
indexes. Because this tactic was comfortable and familiar to them, they were able to 
retrieve and collect information more quickly and easily (albeit not the most relevant 
information), and from their perspective achieved a satisfactory search outcome.
Novice searchers and some intermediate searchers were less likely than skilled searchers to employ reflexive strategies. These participants tended to rush their searches, were less likely to think about the process during the search itself and less likely after the search to reflect on the approach, the process, or materials collected – searches were typically impulsive: “I just throw in a word and see what comes back”. Novice and some intermediate searchers tended to be satisfied with their initial search results and would typically end their search, rather than use the search results to improve their search approach in order to strengthen the search results.

Skilled searchers tended to use reflection to enhance their searching, such as taking a break from a challenging search to reflect on alternate searching approaches, and were more likely to plan a search approach prior to starting a search. Skilled searchers were also more likely to critically evaluate materials collected and continue to build their searching strategies based on their assessment of materials retrieved.

Some searchers described how they would resolve searching challenges by “talking it through” with a colleague or a family member: “I’ll check with my colleagues when I’m trying to track down a piece of information I need – the networking is important”; “my husband is my information source – he’s my Google”; “I talk to my husband, but I don’t need him to say anything, it’s like I just need to say it out loud to someone who will listen without saying anything so I can figure it out”.

During the interviews, about half of the participants were able to draw fresh insights and conclusions about their information searching experiences and behaviour because the interview conversation had provided an opportunity for reflection. This was evidenced by comments that were usually prefaced with “now that I think about it”. For
example: “now that I think about it, maybe if I took more time at the beginning – it would save time later”; “now that I think about it maybe if I paid more attention to the terms, or planned it out before I started searching – it might be better”. This would suggest, as mentioned previously, that giving students an opportunity for reflection about information seeking experiences can be instructive and possibly transformative to the information seeking process.

4.9.4 Sense-making through Google

With only two exceptions, all the participants used Google to assist with the searching process; novice and some intermediate searchers relied heavily on Google, and more skilled searchers used Google less frequently. Participants found Google and Google Scholar instrumental in making sense of the search process: they were used to provide ideas and/or to initiate a search – materials and information retrieved from this initial search shaped subsequent searching behaviour. Google was a “jumping off point” because “when you begin looking, you don’t always know what you need, you know you need information, but you’re not sure how to start”.

4.9.5 Sense-making with critical/analytical assessment

As might be expected, participants with more searching experience, notably the graduate students of this study, took more time to make sense of their search process. These participants had extensive prior searching experience and familiarity with their subject areas and disciplines (domain knowledge) and their set of strategies incorporated the attributes of affect, task, and cognitive into their search process. Although these attributes were not identified specifically by the participants, nonetheless, the descriptions of their experiences, observations and reflexive journals provided the evidence that their
searching behaviour had been influenced and informed by affect, task and cognition. Typically, these participants were patient and persistent with searches; they understood that feelings of frustration or confusion could be managed by organizing searching tasks and by critically assessing the process and the materials collected.

4.9.6 Management of the search and information collected

Most participants described being overwhelmed by the searching process and the amount of information collected: “it can be daunting, with everything you find – there is so much and somehow you have to keep it all straight”. They believed that having some type of organization of the physical items would be beneficial: “I keep my articles in files – I have files for each subject”; “I have word documents for each class and each assignment – I keep a list of everything that way – you have to really stay on top of it”; “I use RefWorks to keep track of the citations – that helps”; “there can be a lot of paper, I’m trying to figure out how to keep it organized – it would be easier I think, if I kept it organized”.

To manage the information collected, most participants employed a number of strategies to organize the information and to contain their feelings of being overwhelmed: how much material to collect, what to include or exclude, and the physical organization of the material collected. Many of these strategies employed to manage and make sense of the process and materials collected are typical approaches used by students. However, some participants of this study described other approaches that were unexpected and surprising. One approach was grounded in personal preferences for the format, aesthetics and length of articles collected, while the other approach was candidly called “name dropping” and “cheating”.

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Two participants commented that article format was a deciding factor in whether or not that particular article would be used in an assignment: “sometimes I just don’t like how an article looks and then I won’t use it”. Both commented that they had encountered sources that did not display well (“it’s jumbled somehow, it doesn’t look right”; “I can’t read it online – it flickers, or something”) and did not print well. Both indicated they avoided using documents with formatting issues, were unhappy that such issues prevented them from using the information, and were resentful that the decision to use or not use that particular source was not their decision. In addition to technical issues they had encountered, both participants also noted that sometimes the “look” of an article was a formatting quality associated with categorizing an article as scholarly or non-scholarly. An article that didn’t “look right” was interpreted as being of questionable quality, whereas an article that “looked right” was more likely to be scholarly.

Another participant indicated that length of an article was a key factor in determining what she did or did not use in an assignment, she was not interested in articles longer than 12 to 15 pages. This very conscious decision was based on her need to place limits on her time, contain her feelings of being overwhelmed, and make sense of the information retrieved by limiting the amount of information collected.

At least four participants described practices that one individual candidly referred to as “cheating”, and that the other three described as a practice of “name dropping”. Upon probing for further details about “cheating”, the participant revealed that after conducting a search through Google, she would go physically to the library, go directly to the subject area of print monographs and flip through books until she found content that closely matched content she found on the topic from a Google search. She then cited in
her paper the books with content that matched information found on Google. This approach satisfied her motivation to cite appropriate sources, thereby meeting the instructor’s expectations and saving her time as she eliminated the need to search through library resources and read the cited books. Since she employed this approach after her paper was near completion, it was clear that she viewed this approach as an additional time saving convenience in the process of writing and completing the paper. Although questionable, this particular strategy was one way this individual made sense of the searching process and helped her make sense of and manage the information retrieved.

“Name dropping” was an approach similar to the cheating strategy that was used in a few creative ways. One practice was to cite an article that had been collected along with several other articles during a search – but had not necessarily been read; the article would be cited simply to support a statement made in an essay: “name dropping – I’ll look at something I’ve said and I think it needs backing up, so I’ll think: ‘hmmm, sounds like so-and-so would say that – I’ll cite him’, that’s what I mean by name dropping”. Another practice was to cite an article from the reference list of another article to support a statement made in an essay: “the title of the article in the reference list was close to the point I made – so I cited it”. Name dropping was also used to cite sources they knew their instructors favoured and to cite seminal works. Finally, name dropping was used if participants believed their essays were on the “light side” for references and citations. In this situation, participants reviewed their collected articles and determined which sources (whether the articles had been read or not) would fit as citations and could therefore be added to the reference list – giving the illusion that the participants had been particularly thorough in their research. As with the “cheating” strategy, name dropping
was used as a strategy to satisfy academic requirements and expectations, manage the
search process, and manage the information collected. These were motivating factors for
those participants who used this approach, but they were also motivated to “name drop”
as a way to manage and save time.

4.10 Hindrances to Information Seeking for Distance/Online Learners

Throughout the interviews and during the observations, issues, barriers and
challenges that hindered information seeking for the distance/online learners of this study
were revealed. As was expected, some of the hindrances encountered were tangible, such
as technology difficulties. Unexpected hindrances were related to health concerns.
Intangible hindrances, such as ways in which time created pressure or stress during
information seeking, as well as perceptions or assumptions participants held towards
library resources and services were also unexpected findings. Participant self-reliance
emerged as an intangible influence that also contributed to hindrances. Table 11 displays
the barriers and challenges encountered and the participant comments indicative of those
experiences.

Table 11: Barriers/Hindrances/Challenges to Information Seeking

<table>
<thead>
<tr>
<th>Challenge / barrier/ hindrance</th>
<th>Representative participant comments indicative of the experiences</th>
<th>Participants</th>
</tr>
</thead>
<tbody>
<tr>
<td>Time / motivation</td>
<td>“it takes time to search”, “if I have time, I’ll search”</td>
<td>Barb, Brenda, Vicky, Rose, Val, Grace, Alice, Cathy, Karen, Fran, Lisa, Mary, Emily, Ellen, Zoe, Bruce, Jane</td>
</tr>
<tr>
<td></td>
<td>“I stop searching when I run out of time”</td>
<td></td>
</tr>
<tr>
<td></td>
<td>“it takes a lot of time – it’s painstaking”</td>
<td></td>
</tr>
<tr>
<td></td>
<td>“I’m impatient – I don’t have time for that”</td>
<td></td>
</tr>
<tr>
<td></td>
<td>“I take time for a break, then search again later”</td>
<td></td>
</tr>
<tr>
<td>Technology</td>
<td>“the links were broken”</td>
<td>Lisa, Fran, Bruce, Ellen, Val, Emily, Cathy, Brenda, Vicky, Alice, Rose, Grace, Karen</td>
</tr>
<tr>
<td></td>
<td>“I couldn’t figure how to log on, so I didn’t bother”</td>
<td></td>
</tr>
</tbody>
</table>
Table 11: Barriers/Hindrances/Challenges to Information Seeking, cont’d

<table>
<thead>
<tr>
<th>Challenge / barrier / hindrance</th>
<th>Representative participant comments indicative of the experiences</th>
<th>Participants</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tech savvy</td>
<td>“I’m just not tech savvy”</td>
<td>Barb, Brenda, Vicky, Rose, Val, Grace, Alice, Cathy, Karen, Fran, Lisa, Mary, Emily, Ellen, Zoe, Bruce, Jane</td>
</tr>
<tr>
<td>Perceptions / attitudes / assumptions about library resources / services / library staff</td>
<td>“librarians are nice, but they won’t have what I want” “the way they talk is boring” “I don’t want to bother them, I’d rather find it myself, it’s quicker” “library resources are powered by Google” “they won’t know how to help me” “they take too long – they talk too much” “I guess librarians can help sometimes” “I told my friend that Google is best to find things” “it takes way too long time for things to come from other libraries – so I don’t bother” “the layout is confusing”, “libraries smell bad”, “I don’t get libraries”, “they’re dusty”, “they’re noisy”, “I’m a library phobic”, “I don’t use libraries”</td>
<td>Lisa, Bruce, Cathy, Karen, Vicky, Alice, Rose, Emily, Barb, Grace, Ellen, Val, Brenda</td>
</tr>
<tr>
<td>Searching library resources (catalogue, indexes), navigating library webpages</td>
<td>“it’s a freaking nightmare” “I was stumped; I feel kind of lost” “it’s picky about the terms” “you have to have the perfect word” “it’s hit and miss”; “it’s trial and error” “it’s confusing, so I use Google, it’s better” “I get there but I don’t know what to do next, it’s not clear to me” “the prof told me to take three words from the article title and use those words to search for other articles” “I don’t know how to start” “you have to know what you’re looking for” “it makes sense to librarians, but not to me” “I lost the link to JStor, I asked my anthropology prof, but she had never heard of it, so I guess JStor is just for History, so I didn’t try to find the link” “you get too much, then you don’t get anything”</td>
<td>Barb, Brenda, Vicky, Rose, Val, Grace, Alice, Cathy, Karen, Fran, Lisa, Mary, Emily, Bruce, Jane, Ellen, Zoe</td>
</tr>
<tr>
<td>Health (physical concerns causing pain; cognitive considerations affecting processing)</td>
<td>“I get distracted”; “I have back pain”; “I can’t process it all”; “I have to print it off – it’s a strain to read online”; “I need structure”; “processing the information is hard”</td>
<td>Alice, Rose, Vicky, Fran, Bruce, Karen</td>
</tr>
</tbody>
</table>
4.10.1 Technology: tangible technical issues

As distance/online learners, participants used technology as the lifeline to their academic experiences. However, all the participants experienced technical issues, whether with their course shells, taking online exams, logging onto their student accounts, using library resources, or registering for classes. Some technical issues were institution specific, such as technical difficulties with online exams reported by at least five participants, while some issues were situation specific related to personal laptops, software or compatibility. Just over two thirds of the participants experienced technical barriers that specifically hindered information seeking. Given that technology is the lifeline for distance/online students, technical problems represent a significant hindrance. When encountered, participants were frustrated and felt powerless, vulnerable and in some instances, abandoned.

Technology issues that hindered searching such as broken links, thwarted attempts to log on, navigation confusion, and software glitches and incompatibility were identified by the participants: “the links never worked for me – that was a deterrent”; “I couldn’t log on, so I couldn’t get into the library site, eventually that was addressed, but it was frustrating”; “it turned out to be a problem with the VPN, that’s why I couldn’t log on”; “I have a Mac and sometimes I run into compatibility issues”; “I don’t know what happens but my library account expires, suddenly I can’t access the library – it gets sorted out, but in the meantime, I lose time”.

When participants encountered problems with library web pages, they rarely contacted anyone for assistance, citing one or more of the following reasons: a desire to be self-reliant, not sure who or how to make contact, time of day (“it was night time – I
didn’t think anyone would be around to help”), and a perception that no one could provide assistance in a timely fashion. These unresolved technical issues contributed to participants’ feelings of impatience, inadequacy and confusion with navigation of and attempts to use library resources (“I’m not good with technology – so it’s hard”; “the links never worked for me so I didn’t bother”; “I get there but I don’t know what to do next, it’s not clear to me”; “I just gave up”). Technical issues also reinforced participants’ self-perceptions of technological ineptitude and as a consequence blurred the line for participants between a genuine technical issue and a searching challenge unrelated to technology but perceived as a technical issue.

Technical difficulties adversely affected the searching experiences of two thirds of the study participants. These difficulties influenced participants’ searching behaviour and decision making when they decided which information sources to use and how to use them. Typically, searchers gave up on the library.

4.10.2 Technical issues – e-books

Another type of technical barrier identified by seven participants was related to e-books. While it is logical to assume that e-books would support learning for distance and online learners, this was not the case for the participants of this study. The participants did not specifically search for e-books, partly because they were unfamiliar with the format, and partly due to their limited use of the catalogue as a searching tool. When participants discovered e-books by accident or by design, either through a library catalogue or through Google Scholar, they were deterred from using e-books by various technical barriers. These included denial of access issues (usually because of congruent user limits), navigational frustrations, off-putting page design (“I just don’t like how they
look, they’re messy – it’s confusing”; “I don’t get it, I’m not technically adept”), an aversion to reading content online, and the inability to print pages from the e-books. Partial content of e-books found through Google served to further frustrate participants. Those participants who self-identified as having learning challenges related to cognitive considerations seemed to find the e-book platform particularly frustrating in terms of navigation and online reading. Although these participants did not identify specific e-book providers they had encountered, their frustrations are not surprising as many e-book platforms are not equipped to accommodate disabilities. For example, many are not compatible with adaptive technology for visual impairments, and as Fichten et al. (2000) report, assistive technology for visual impairment is also used by those with learning disabilities. In general, although e-books are widely available, they are not user friendly. Participants were not highly motivated to spend time trying to use e-books: “I just don’t have the time, it’s frustrating, so…. I just don’t bother”.

4.10.3 Use of library resources: navigational and technical hindrances

Navigational issues encountered when participants attempted to access and search for library resources were also identified as concerns: “I went to the library pages and tried to search for articles, but when I got there – I guess it’s where you search for articles, I wasn’t sure what to do, it wasn’t clear to me, it didn’t look right, so I left it”; “I got to the database page, but I wasn’t sure what to click on, or what I should do to find things”. Sometimes participants encountered technical as well as navigational barriers: “I finally figured out how to get to the page so I could search for articles, but I couldn’t log on – I don’t know why”; “the prof gave us the [library] links to get the articles – but the links didn’t work”.

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Participants observed that library webpages were confusing and distracting: “there is so much on the page and it isn’t clear what I should do, so I don’t bother”; “the pages aren’t well laid out, it’s not intuitive, it takes awhile to figure it out, I get impatient”; “you try to find things, but you have to know what you’re looking for and where it is”; “I had to show a friend how to find Academic Search – she didn’t know how to find it, it can be tricky to get there and you have to know about it to find it”.

The intensity of reactions varied, but all the participants experienced technical as well as navigational hindrances seeking information through library resources when searching for information: “it can be confusing sometimes, but it’s not so bad”. Responses to these difficulties included the decision to stop the search (“I decided to stop looking, I wasn’t sure if I had enough, but I figured I could make it work”; “I had enough information by that point, so there was no need to get more”) or take a different searching approach (“I got some books from the library”; “I went back to Google”; “I tried something different”; “I asked my Facebook friends for ideas on where I could get the information”). Novice and some intermediate searchers were generally less persistent in resolving searching challenges, while stronger intermediate and advanced searchers tended to be more patient and tenacious. Stronger and advanced searchers would generally take time to reflect on the issue, were more likely to assess their searching strategies and were more likely to continue the search.

4.10.4 Technology: intangible tech savvy

During the flow of the interviews, participants commented on their technical knowledge; surprisingly, most participants expressed a lack of familiarity and discomfort with technology. In some instances participants made candid, matter-of-fact statements as
they described their experiences: “I’m not tech savvy, my daughter laughed at me when I told her I was going to do a degree online”, in other instances, the comments were made in a shy, confiding manner: “I probably shouldn’t confess this, but I’m just not tech savvy, I’m just not good with technology”.

In analyzing the data, it emerged that all the participants acknowledged at some point they were not tech savvy, adept, or familiar with technology. The participants’ lack of confidence with technology was evident in two areas: frustrating experiences with technical issues (“I’m not tech savvy, my husband helped me figure out the VPN”; “I couldn’t log on – I don’t know what the problem was”) and their assessment of searching outcomes. Further analysis of this pattern revealed that their self-perception of personal technical limitations contributed to an intangible barrier when they sought information. Unsuccessful or frustrating searches reinforced the notion that they were not tech savvy: “I just can’t get the hang of it yet, it’s because I’m not tech savvy”; “I have trouble searching, I’m not tech savvy”; “searching is hard and I’m not technically adept”.

However, a successful search confirmed that they were becoming “more tech savvy and getting the hang of it”; “I seem to be getting better with searching, so I guess I understand the technical part a little better”.

Because participants believed they were not tech savvy, search frustration and subsequent unsuccessful searches were accepted as usual and the norm. Because they considered this normative, participants rarely asked for searching assistance. Depending on time (availability of time, or lack of time, or time pressure), motivation, and level of searching abilities, participants would apply various sense-making strategies as discussed in Section 4.9 and displayed in Table 10. Even with these strategies, however, the
perception of not being tech savvy persisted. It appears that these study participants concluded that strong, unshakeable connections existed between search successes and technical abilities. Perhaps many other learners, not just distance learners, have similar perceptions. One could speculate that formal library instruction sessions might dispel the “not tech savvy” perception; however, with the stated distaste for library instruction described by the study participants, along with many other perceptions and assumptions held about library resources, services and library staff, remedial tech-focused library instruction might not change the perceptions related to being tech savvy and searching for information.

4.10.5 Participant perceptions hindering information seeking

This study revealed a wide variety of perceptions and attitudes held by the participants about library resources (access, use, breadth and depth of resources) and library staff and librarians (a belief that staff were not knowledgeable about a subject area and therefore not able to provide assistance) that hindered or dissuaded participants from using library resources and services. These perceptions were reinforced by previous library experiences (“they talk too much”; “they’re nice but they can’t help you”; “I just couldn’t get it to work for me”) as well as a lack of experience with libraries (“I just don’t think they’ll have what I need”; “I hate libraries, I never go there”). Negative participant perceptions about library resources and services were further supported by technology issues, assumptions about not being tech savvy and the ease with which information could be found through Google searches (“Google is the best, I find everything on Google”; “library resources are powered by Google – so I search on Google”).
Time, motivation and a strong desire to be self-reliant and self-sufficient were underlying influences that strengthened their perceptions and attitudes. Participants who were highly motivated usually took more time to apply sense-making strategies when searching for information and were more likely to be persistent and patient in their attempts to access, use and search for information through library resources. Participants who were less motivated were less likely to take the time to access and use library resources and were less persistent when searching challenges were encountered. The sense making strategies employed by these participants were likely to include reliance on Google, truncating the search, or various “cheating” approaches described by four participants.

While all the participants demonstrated a strong desire for self-reliance when searching for information, this desire was a double-edged sword. Being self-reliant contributed to the various sense-making strategies developed within the searching process to cope with searching challenges. However, the participants did not always recognize when assistance may have been helpful or that assistance was available and as a consequence some participants were more frustrated than necessary with their searching challenges. When given the opportunity for reflection during the interviews, several participants noted that “maybe librarians do know more about my subject and maybe they can help you”.

While library users’ perceptions about library staff and resources have been explored in LIS literature (Duke & Asher, 2012; Gross & Latham, 2012; Mellon, 1986), the negative effect these perceptions have on information seeking is a matter of concern that begs to be addressed. Participants articulated a number of negative comments and
perceptions about library instruction sessions, but upon reflection, many acknowledged
the sessions had been more helpful than they realized. This would seem to suggest that
library instruction could be beneficial in changing users’ perceptions, however
overcoming misconceptions users may have toward instruction may be quite challenging.
Library instruction is just one way in which the profession can change users’ perceptions,
and there should be many other changes to the image of library staff and libraries to
increase the value learners place on library resources and services.

4.11 Time/Motivation and Information Seeking Experiences of Distance/Online
Learners

Time was consistently referenced when discussing information seeking
experiences and was strongly linked to many aspects of the searching process: taking
time to search, finding time to search, had time to search, wanting time, running out of
time, time to reflect on searching (see Table 3, Section 4.3.1). Aside from an academic
requirement to meet an assignment, time was frequently the stimulant or impulse to
initiate a search, pause or end a search. Time was not only influential to the searching
process as well as the searching behaviour and was found to be a key component to the
everyday lived experiences with information seeking.

Motivation to search, as evidenced in participant descriptions and explanations
about searching, was an underlying and influencing factor to the search purpose. Patterns
of motivation influencing search experiences and behaviour were apparent in participant
approaches to searching practices as well as the attentiveness and commitment given to
the search process. For most of the participants, motivation was also articulated through
the use of language that emphasized an interest, or drive, to find information: curiosity,
interest in learning something new, wanting to find the answer, or fascination with trivia.
Typical comments included: “I just like looking things up”, “it’s interesting”, “I wanted to know the answer”. Some participants were quite passionate about searching: “I LOVE searching”, and some were compelled to search: “it was bugging me; I just had to know if he was right, but I was pretty sure I was right” or “I needed to check” or “I wanted to check”. Of the 17 participants, one revealed searching priorities that were quite different from the other participants: she evinced low motivation and commitment for doing school-related searches, but a higher commitment to complete school-related searches in as little time as possible in order to conduct personal-interest searches.

When participants felt pressured due to time limitations or deadlines, time became a stronger influence than their personal motivation to continue searching – that is, the priority of time overcame the priority of the information need. When this occurred, participants typically made decisions to collect fewer items, end the search process sooner than planned, read shorter articles, or engage in “cheating” behaviour with respect to the management of material.

When analyzing the relationship of time and motivation against participant search skills/experiences (see Table 6, Section 4.6.1, Table 7, Section 4.6.3, Table 8, Section 4.6.4, Table 9, Section 4.7.1, and Table 10, Section 4.9), it was evident that time and motivation formed a dynamic relational force that stimulated change, action, and progress while participants were engaged in information seeking. This dynamic was influential to the searching experiences, search strategies, and to the search behaviour. As one participant observed: “the entire search took me just over ten minutes although it seemed like it took much longer, I think the more success you have when searching for something, the less time it seems to take because you’re less frustrated”, which seems to
suggest that the amount of time given to searching is strongly related to motivation to continue a search when the outcomes are positive.

Analysis of time and motivation with respect to searching revealed that when motivation was high and time was available there was a strong commitment to searching. Further, when time and motivation were analyzed against searching skills and levels (Novice, Intermediate, and Advanced), this was found to be influential to the commitment and intensity for searching. Table 12 below displays this dynamic.

**Table 12: Time/Motivation, Searching Skills, and Commitment to Searching**

<table>
<thead>
<tr>
<th>Novice</th>
<th>Intermediate</th>
<th>Advanced</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Low: Time</td>
<td>2. Low/Mid: Motivation</td>
<td>5. Mid/High: Time</td>
</tr>
<tr>
<td>Motivation</td>
<td>Searching skills</td>
<td>Motivation</td>
</tr>
<tr>
<td>Searching skills</td>
<td>Searching skills</td>
<td>Searching skills</td>
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<tr>
<td>Motivation</td>
<td>Motivation</td>
<td>Motivation</td>
</tr>
<tr>
<td>Searching skills</td>
<td>Searching skills</td>
<td>Searching skills</td>
</tr>
</tbody>
</table>

*Time devoted with Motivation and Searching skills = increased intensity/commitment to Searching*

Barb, Brenda, Vicky, Rose, Alice, Grace Val, Karen, Cathy, Mary, Lisa, Jane, Bruce, Fran, Zoe, Emily, Ellen

*Less time: under time constraints, these particular participants devoted *less time* to searching and made certain “time saving” decisions with their search approaches, use of information resources, types of information collected, and the management of the information once found and collected.

Participants in categories 5 and 6 were highly motivated, would devote more time to searching and possessed good/strong searching skills, and thus demonstrated a stronger commitment to searching. These participants were more likely to search longer, apply several strategies or approaches, and assess the search process and information collected. These individuals were also more likely and more *motivated to: make* time, *find* time, *spend* time, or *take* time for searching – criteria that emphasize the high value some placed on information searching and information. While these individuals typically made
conscious and deliberate decisions to search for information, they were also more likely to discover information incidentally.

Individuals with motivation, good searching skills, but with less time (category 4) were also likely to be persistent and attentive to the search process, but due to time pressure or limitations, they ended their searching prematurely, sometimes with reluctance. Although a search might be truncated due to time pressure, these individuals were often motivated to continue searching at another time.

When barriers or challenges were encountered while searching, individuals in categories 4, 5 and 6 tended to be more persistent and were more likely to be self-regulatory in their search behaviour. Individuals with high motivation were more likely to resolve the barrier perhaps by taking a time break to reflect on the problem or to consult with a trusted source.

Participants in categories 2 and 3 who possessed weaker, less developed search skills were still motivated to seek information and devote time to the task, but their inadequate skills jeopardized their success and created frustration. The impatience and confusion they experienced seemed to negatively influence both how much time they devoted and their motivation to continue the quest for information.

Barb, the only participant in category 1, demonstrated low motivation for searching. She did not enjoy searching for information for school-related tasks and was perfunctory in her search approach. Her goal was to find the information and complete the school task as quickly as possible in order to search for personal purposes – to find information about cosmetics and body care products or to play computer games. She did not express time constraints the same way other participants did as her low motivation
influenced her to complete the task as quickly as possible. Since Barb also held an over-inflated opinion of her searching skills (Table 8, Dunning-Kruger Effect) she was confident in her searching approach, and was satisfied with the amount of time she devoted to the task.

Time and motivation were integral parts of the searching experiences when participants encountered barriers and hindrances – not only in terms of exacerbating those barriers, but also influencing ways in which participants reacted to obstructions. When time was referenced specifically as an impediment (“I ran out of time”; “I don’t always have enough time”; I have to stop searching when I run out of time”; “time is a reason to stop searching”; “sometimes there just isn’t enough time”) analysis of the data revealed that motivation was tied to time and that both affected the searching behaviour when hindrances were encountered. In some circumstances, time was the strongest determining factor in reaction to challenges (“I couldn’t figure it out and I was out of time – I had to stop) and in other circumstances motivation outweighed the time pressure with searching difficulties (“I knew it was there, so I just kept searching until I found what I was looking for”).

As might be expected, analysis of the data also revealed that those who were highly motivated to search for information were more likely to make time, plan time and spend more time with a search and more likely to take time to problem-solve when barriers or hindrances were encountered. Those participants who were less motivated to search were less likely to spend time searching and were not as persistent with searching or problem solving challenges. Time and motivation were determining factors when participants responded to searching barriers – whatever those barriers might be. They
were also determining factors when participants decided to end a search, continue a search, or temporarily suspend a search.

Generally speaking, time and motivation worked together as influencing factors on searching experiences and search behaviour. However, when motivation was stronger in intensity, there was more commitment on the part of individual to search, even though searching skills might be low. When motivation and time were low and searching skills were poor, there was even less commitment to search.

Time was the unifying characteristic that permeated all aspects of the phenomenon of information seeking experiences in these distance/online learners’ academic life-world. Time was also a critical, foundational component to information seeking, or as Savolainen (2005) notes in his discussion about time and information seeking, is one of the “main contextual factors of information seeking” (p. 110). It was found that motivation and time as a relational dynamic can be a predicator for searching skills, attentiveness to the search process, and the degree to which the process and the information collected will be assessed and applied to ongoing or new searches. All the participants were self-directed – that is, they wanted to “figure it out on their own”, but only those with higher motivation demonstrated self-regulatory search behaviour.

Participants with motivation, time, and well developed search skills and/or the motivation to be attentive to the process and learn from the process reported experiences and demonstrated search behaviour that can be described and interpreted as transformative to the phenomenon of everyday lived experiences with information seeking.
Chapter 5 Discussion

5.1 Overview

This study was a qualitative investigation of information seeking experiences of distance/online learners, a topic that is under-reported in distance library services literature of the Library and Information Studies (LIS) discipline. The research approach was built on LIS information seeking theory and research, and drew on ideas associated with hermeneutic phenomenology as its theoretical framework. The main research question was: From the perspective of post-secondary distance/online students, what are their experiences with information seeking? Within this main research question the four related sub-questions were:

- What are the underlying themes and contexts of the experiences?
- How are the lived everyday information seeking experiences of the distance / online student manifested in their information seeking behaviour?
- What, if any, are the barriers that hinder distance/online students from finding, accessing, encountering, using, and interacting with information?
- What strategies are employed in finding, accessing, using and interacting with information?

The results of this study revealed some findings about distance learner information seeking experiences that were consistent with reported distance library literature (such as reliance on Google as an information source, technology needs/issues, and time management/multi-tasking strategies), while other findings (such as participant perceptions and attitudes about Google, e-books, isolation, and collaboration) were less consistent with reported literature.
Results about participants’ reluctant and uninformed use of library resources and services were found to be somewhat consistent with reported research. Some distance library literature indicates that distance learners typically rely on the internet as their favoured information source, tend not to use library resources, and prefer to be independent with their searching, for example Morrison and Washburn’s (2004) focus group study with distance learners, and Van de Vord’s (2010) study of information literacy skills and distance learners. The Morrison and Washburn, and Van de Vord findings are similar to those reported in Duke and Asher’s (2012) study of on-campus students. However, some distance library services literature suggests that distance learners do access and use library resources (Brahme & Walters, 2010; Byrne & Bates, 2009).

The information seeking phenomenon was not separate or distinct from the participants’ academic life-world as distance learners, but rather part of inter-related experiences contributing to the overall academic life-world: information seeking permeated and was deeply embedded in their lives. Participants of this study were highly independent and self-reliant in their information searching behaviour, and although most participants rarely used library resources or availed themselves of library services, they acknowledged occasional use of library resources. While it was not too surprising that they tended to be independent in their information seeking, the strength of that independence – evidenced by their sense-making search strategies, aversion for asking for assistance, self-imposed isolation, and intense dislike for collaboration – underscored the high value placed on independence.
A few of the perceptions and attitudes described by the participants about libraries, librarians, resources, and services revealed the ways in which participants’ perceptions and attitudes influenced their information seeking experiences and behaviour. Participants placed low value on the library and its resources and services in comparison to other elements and aspects identified as inherently significant to the distance/online learning experience as displayed in Table 5: Elements reflective of participant experiences with distance/online learning.

Five findings stand out as being particularly revealing about the participants’ information seeking experiences and behaviour: the high value placed on time and its relational dynamic of time with motivation, domain knowledge, and source preference; the Dunning-Kruger Effect; perceptions about librarians, library resources and services; the connection made by participants between technological aptitude and searching success/outcomes; and searching experiences that contributed to altered or transformative searching behaviour.

The study findings provide insights about the phenomenon of information seeking experiences and behaviour of distance/online learners and suggest changes to practice.

5.2 Dimensions of the Information Seeking Experiences

The findings of this study are presented in five dimensions reflective of the descriptive and the interpretive range of the phenomenon of participant information seeking experiences. Those dimensions are: 1) Profile; 2) Essence; 3) Sense-making; 4) Barriers; and 5) Transformation.
5.2.1  Profile

The online/distance learners of this study did not entirely match the distance learner profile typically portrayed in the literature. While 16 of the 17 participants were women – a gender representation consistent with most reported literature – and seven participants matched the usual age range reported, only one participant met all the attributes generally recognized within the typical distance learner profile. This study also revealed a departure from reported literature with respect to participant geographic location relative to the learning institution: almost two thirds of the participants lived in the same community as their institution. This finding underscores the flexibility offered by online/distance learning regardless of student residence and suggests that the impact of geographic distances, which once had more significance, has been minimized by technology. While physical distances seemed to be of little consequence to these participants, they emphasized that the online learning environment is distinct from the face-to-face setting, however, that difference was very attractive in contrast to the face-to-face learning because the online environment transformed their learning opportunities.

Although Johnson and Fabbro (2013), Crichton and Kinash (2013), and Burgstahler et al. (2004) have identified the need to support diversity in distance learners (such as international students, and students with disabilities), the literature from the distance education and distance library services fields tends to be silent about distance learners with circumstances that may present challenges that modify the learning and information seeking experiences for these students. In this study, 11 participants self-reported diverse situations: various cultural backgrounds (eight), English as a second language (six), and physical and cognitive circumstances (six). Five of the 11 participants
described how they managed information seeking while coping with physical as well as cognitive challenges, and of these, two managed information seeking with physical and cognitive circumstances in addition to speaking English as a second language.

Based on these findings, it is advisable to assume that distance learners have various learner styles and needs and may not fit a particular learner profile. Those providing distance education and related services must respect the privacy of learners, and learners who can choose whether or not to disclose their personal circumstances with disabilities or other situations (Fichten et al., 2000, 2003a, 2003b); however, it is important to accommodate diversity.

The need to accommodate distance learners such as those who participated in this study suggests that adjustments to both pedagogical methods and library services are needed to better meet the academic needs of a more diverse population of distance learners. Such adjustments have implications for course delivery, course management software design, technological applications, accessibility to library resources and services, delivery of library information instruction, and the design of web-pages that meet usability standards. With accessibility legislation and standards in place provincially, nationally, and internationally (Constitution Act, Canadian Charter of Rights and Freedoms, 1982; Canadian Human Rights Act, 1985; Accessibility for Ontarians with Disabilities Act, 2005; UN Enable – Convention on the Rights of Persons with Disabilities, 2008; Web Accessibility Initiative, 1994-2014), it is more pressing than ever that educators and librarians implement changes and enhancements of benefit to distance as well as on-campus learners.
A finding that seemed to challenge previously held assumptions reported in distance literature was the connection of learner independence with collaborative learning experiences and feelings of isolation. Among the many reasons why participants of this study elected to pursue distance/online learning was the desire to be independent in their learning. Participants of this study placed very high value on self-reliance: they preferred to work independently on school work as well as information seeking tasks, had a strong aversion to collaboration, and with one exception, did not experience challenges with or express concern about isolation. In fact, the experience of isolation, found to be self-imposed and desirable, was strongly connected to the intense need for independence. The resistance to collaboration amongst these participants is indicative of self-protective behaviours: they did not want to share information and did not want to be put in a position that required them to share information with others. Collaboration with other students was the antithesis of independence, considered an unnecessary waste of time and detrimental to their academic life-world. This desire for isolation may appear to be at odds with the desire to participate in a study, but the participants were more than eager to share their experiences during this time-limited, one-to-one data gathering encounter. While time, independence, and isolation were guarded specific to their academic life-world, each made time to participate in this study due to their curiosity about the topic as well as the research process.

Although the commonly held belief by educators and librarians, expressed in the literature is that collaboration was welcomed by the distance learners, and isolation was not welcomed, the evidence from this study indicates the opposite. This suggests the need for distance educators and distance librarians to change their expectations about
collaboration and opinions about isolation, and adjust pedagogical approaches and practices. Further, recognizing the dynamic of learner independence in connection with self-imposed isolation and the distaste for collaboration requires pedagogical changes to information literacy instruction sessions to *strengthen* the information seeking experiences for distance learners that will in turn effectively *support* learner independence. Although these participants and likely others like them preferred to be self-reliant and desired self-imposed isolation, these choices should not result in their information seeking experiences and needs being ignored. In considering this evidence, distance librarians will have to be more visible and accessible to distance learners and more assertive by reaching out to them to ensure they have access to information and constructive information seeking experiences. Ways to achieve this include consultation with distance educators and/or provision of course embedded librarian model(s).

Participants in this research had studied in both face-to-face on-campus settings and in distance/online environments and their information seeking experiences as revealed to this researcher suggest that the differences between these two environments are diminishing. The obvious contributing factor to the blurring of academic experiences of the off-campus and on-campus students is technology’s impact on information seeking, learning in general, and distance learning in particular. However, while the academic experiences may be increasingly similar, the participants of this study emphasized that learning, course delivery, and online teaching are still “different online than in a classroom”. Although the participants made this distinction about distance learning, they did not make a similar distinction about information seeking in the distance
context, other than to emphasize that technology “makes it easier to find information” and “it’s easier to work from home now”.

The blurring of experiences between on-campus and off-campus students has been identified in recent distance library services literature (Johnson & Fabbro, 2013). Duke and Asher (2012) found that on-campus students generally prefer to work from home and tend to avoid use of the library – a finding that supports the suggestion that information seeking behaviour of on-campus and off-campus students is becoming similar due to the available technology. Further research is needed to explore this trend; however, this finding, supported by this study, does indicate that the line between the information experiences of the online/distance student and the on-campus student is disappearing. The implications posed by this change will affect the ways that library staff members deliver services, resources, and instructional sessions for both groups of students.

5.2.2 Essence

Van Manen (1997) defines essence as: “that what makes a thing what it is (and without which it would not be what it is); that what makes a thing what it is rather than its being or becoming something else” (p. 177). In analyzing and distilling the informants’ information seeking experiences, the element of “time” and the relational dynamic with “motivation” were revealed as the essential core –“that what makes a thing what it is” – of the information seeking experiences shared in common by all the participants. Time was a force that stimulated change, action, and progress while they were engaged in information seeking. Time, especially when combined with personal motivation, situational circumstances, a desire for independence, and information source preferences,
became a very strong dynamic. Time and motivation were found to be essential to the phenomenon before any other experiences with information seeking could occur.

Although time and motivation varied in intensity and strength among the participants, these elements were evident and revealed as determining agents for individuals to engage in distance/online learning. These two elements determined the ways that participants’ priorities with school, work, families, and other personal circumstances were managed, and influenced and informed their information seeking experiences. Time and motivation compelled, prompted, and sometimes inspired the participants to instigate searching; searching persistence was determined by the amount of time and motivation devoted to the search process. As the key factors influencing information seeking, both elements represented different pressures or powers during various segments of the searching experience: opportunities, barriers, threats, decision-making, planning, and strategies. Time and motivation might be sources of frustration when searching, but were also used to resolve searching challenges when encountered and thus contributed to transformative experiences with information seeking.

Time is highly valued among these participants, a finding similar to that reported by Kramarae (2001). The value distance learners place on time cannot be under-estimated by librarians and distance educators. However, time is just one part of the information seeking experience: it is the strong relational dynamic of both time and motivation that influences information seeking experiences and in turn informs information seeking behaviour. Recognizing and understanding that time and motivation influence learners’ information seeking experiences will enable librarians to draw predictive observations about the information seeking behaviour.
5.2.3 Sense-making

The participants of this study were aware that schemes and structures underpin the organization of information systems for seeking, finding, and retrieving information, the “code” that needed to be cracked as some observed. Although some participants were less knowledgeable than others, they all were able to articulate their own particular understanding of the system, and describe how they had developed an individualized set of strategies to make sense of the system and the searching within the system. These sense-making strategies influenced and informed their information seeking behaviour. The degree to which these informants were committed to their searching strategies affected and contributed to transformative experiences with information seeking: those with higher motivation, time, and domain knowledge were more likely to have transformative experiences with the information seeking process.

The participants applied various approaches and strategies to manage and make sense of the information seeking process. While the strength and intensity of those approaches differed amongst the participants, each individual demonstrated ways in which they made sense of information seeking during all stages of the process from beginning to completion. These stages included the pre-planning stage of information seeking; aspects of the search process itself that emulated Kuhlthau’s Information Seeking Process model (emotions/feelings/affect, the physical actions/tasks undertaken in the mechanics of searching, the intellectual/cognitive); the management of the information retrieved during and after the search process; and decisions that determined the conclusion of the search process. Some informants were unaware that their sense-making strategies were not effective and their perceptions about sources (use of Google,
avoidance of library resources) were based on misperceptions, but because they had developed strategies that made sense to them, they had confidence in their searching skills, regardless of the search outcome.

Sense-making strategies developed by the participants were also informed by time and motivation in combination with source preferences, domain knowledge, and the Dunning-Kruger Effect, which in turn influenced their information seeking experiences and information seeking behaviour. The perceptions and attitudes towards librarians along with the low value placed on library resources and services also influenced sense-making and information seeking experiences. Because of the strong desire for independence and self-reliance – qualities inherent in distance learners – combined with their perceptions about librarians and library resources, most participants generally avoided use of library resources and rarely if ever consulted with library staff for assistance with information seeking.

5.2.4 Barriers

Various types of hindrances and barriers encountered when accessing and searching information were reported. Tangible barriers were primarily related to technology – issues that are quite significant for distance learners. Other barriers were intangible and took two forms. The first form of barrier involved self-recognized and self-reported limitations with information seeking skills, technology, and learning styles. Additional intangible barriers were time-wasters such as collaborative learning, poorly designed course shells, pedagogical concerns, and information searching delays/problems. Personal situations such as English as a second language or physical/cognitive considerations were identified as circumstances that sometimes
created or posed hindrances, but the participants had learned to manage these situations to minimize difficulties. The second form of barrier involved situations that the participants did not recognize as hindrances. These included the limitations of their self-reliance, perceptions about library services and librarians, and faulty assessment of their own information seeking skills (Dunning-Kruger Effect).

The nature of the challenges reported by these distance learners revealed the types of hindrances that can occur with information seeking experiences in the distance/online environment. The ways that the distance/online learners managed the barriers (real and perceived) provided insights about their information seeking behaviour in this environment. Recognized hindrances were tackled with a variety of problem-solving strategies that managed and/or mitigated the issue – participants generally learned from these experiences and applied a solution the next time a similar issue occurred. Hindrances that were not recognized as such made potential resolution a little more complicated: they contributed to searching difficulties, but since the participants did not recognize or acknowledge the hindrance, resolution was impossible.

Participants of this study were self-reliant and took pride in their independence, particularly when resolving information seeking challenges; however, the methods they selected to resolve matters were often not the best choice. Even when participants encountered difficulties and uncertainty searching for information associated with their academic tasks, they preferred to resolve those situations on their own by applying familiar problem-solving strategies or developing new ones. On the one hand, the strategies applied informed their searching behaviour and contributed to transformative searching behaviour, but some participants continued to struggle and their desire for
independence coupled with perceptions about librarians hindered them from seeking assistance.

Evidence of communicative action (Benoit, 2002) as a potential hindrance to information seeking of library resources, as discussed in Chapter Two, section 2.2.5, was elusive in this study. While the language structures used to organize, catalogue, and classify information in library resources, along with library jargon used by library staff and library instruction sessions seemed to contribute to searching frustration, results related to communicative action are not definitive. By consciously not relying on library resources and avoiding librarians, only a few participants reported frustration with the language structures. In this respect, the communication action piece is present – but not quite as expected. By avoidance, the participants of this study simply worked around the issue, were self-reliant, applied sense-making strategies, and used Google as a preferred information source.

All the participants identified technology as essential to the distance/online learning environment and emphasized that “technological advances” had made online learning highly appealing. It was not surprising that participants described a close and necessary relationship with technology which they considered an essential tool for learning and information seeking. Technology was viewed as both an aid and a hindrance and while some participants were more comfortable with technology than others, all acknowledged some degree of limitation with technology when they used hardware or software, or navigated web pages and/or course platforms. The findings related to e-books (the extreme dislike and avoidance) and the connection participants made with
being tech savvy and searching success were particularly revealing about the information seeking experiences of distance learners.

In considering the technical issues encountered by these study participants, several conclusions can be drawn. First, assumptions should not be made about the level of familiarity and comfort distance learners have with technology – in other words, being a distance learner does not equate with technological expertise. Second, e-resources, especially e-books may not meet the needs of distance learners and in fact may hinder their access to information. And third, institutions have an obligation to improve navigational issues and strengthen the technological platforms for ease of use. These technical issues and hindrances raise several questions. Why does technology create so much frustration and confusion, prevent access to library information sources and adversely influence information seeking of library information sources? How can technology minimize navigational barriers to accessing and searching for information for all students, not just distance/online learners?

5.2.5 Transformation

Transformative experiences with information seeking – that is how and what was changed/ altered/ transformed with or as a result of the information seeking experiences – were evident amongst the participants through search satisfaction, sense-making, diversity (dealing with hindrances), and reflection. The transformative experiences varied in strength and intensity, but were nevertheless evident, confirming Budd’s (2005) claims for the transformative qualities of information seeking and also supporting Kuhlthau’s (2004) results showing that the information seeking process (ISP) is alterable.
Most participants expressed pleasure with the search process, and when the information goal was achieved, the achievement evoked satisfaction and even delight. This delight was assurance that not only had the “right answer” been found, but their success also confirmed their skills with searching. Searching satisfaction – reaching the information goal – might look different amongst participants, but in most instances, this satisfaction encouraged participants to hone their search skills in order to have that continued sense of delight. Information searching also complemented their desire for independence and self-reliance, and all the participants had created a set of information seeking approaches that made sense to them. Their set of strategies helped them search for information and also to manage the information retrieved.

Frustrating experiences with searching prompted most participants to create problem-solving strategies. Due to their desire for self-reliance, participants typically developed strategies independently on a trial-and-error basis. While these problem-solving strategies contributed to their transformative learning experiences, some frustration might have been minimized with assistance from librarians. Since there may be challenges that prohibit librarians from reaching out, connecting with, and/or identifying distance/online learners, various viable methods are required to provide assistance at the point of need.

At various points during this study, participants remarked that describing past experiences with information seeking prompted them to think about those experiences in a new light and draw fresh insights. Discussing information seeking was a catalyst for reflection and this in turn proved to be instrumental for the participants to consider the transformational aspects of information seeking: “now that we’ve talked, I’m going to
think about this, maybe I’ll search differently”. Providing learners, especially distance/online learners, opportunities for reflection at several strategic points during their academic career could be of great benefit, not only to their information seeking behaviour, but also for their academic success.

5.3 Findings as a Hermeneutic Phenomenology Study

This study drew on ideas associated with hermeneutic phenomenology as the theoretical framework. In some respects, I was successful shaping this as a hermeneutic phenomenology study, but as a novice researcher, I was limited by my experience and there were other areas that were less successful. The research approach and design was in keeping with the principles of this tradition of inquiry with respect to data collection; however, analysis provided some challenges. Data collection drew out much rich data about the participants, their experiences as distance/online learners, and their experiences with information seeking in the online environment. I was fortunate that the participants were articulate, candid, forthcoming, and willing to share significant and comprehensive details about their academic life-world. In particular, their self-reflective observations that occurred to them during the interviews about their information seeking experiences were profoundly insightful. The richness of their stories and self-reflection is in keeping with a hermeneutic phenomenology research approach. With this rich data, I was able to make nuanced observations and provide insights about information seeking behaviour. There were, however, aspects of their stories that invited deeper interpretative analysis and opportunities to explore these further may have been missed. Given more time or opportunities for additional interviews with the participants, I would have been able to
more deeply explore their information seeking behaviour to reveal their reflective and transformative experiences.

The goal of the phenomenological method is to “arrive at an *investigation of essences* by shifting from describing separate phenomena to searching for their common essence” (Kvale, 2009, p. 27). While I believe this study revealed the common essence – time – of the information seeking phenomenon and also revealed the influence of time on the information seeking experiences and behaviour, I am less certain that I investigated that essence to the depth perhaps possible in a hermeneutic phenomenology study. Although I drew inspiration from Budd’s (2005) discussion that makes a connection between the transformative, reflective aspects of phenomenology with the transformative, reflective, learned, and alterable experiences inherent with information seeking, some findings revealed aspects of the transformative experiences, but viewed in retrospect, I believe that I have only scratched the surface of what is a very complex phenomenon.

5.4 Limitations

In addition to the limitations of this study as noted in Chapter One, section 1.6, there were disadvantages to the approach used in this study. Conducting a hermeneutic phenomenology study was a learning experience for me and although this created a rich learning opportunity which proved to be personally transformative for me, there were challenges during the analysis process. Although I followed the steps Kvale (2009) recommends for phenomenological analysis, and maintained an audit trail, nonetheless managing, sorting and analyzing the data in keeping with the inquiry was a daunting and overwhelming experience. As a consequence, I am not certain I fully examined all the inter-related layers of the participants’ experiences with information seeking. Nor am I
certain I was able to completely understand the dimensions of how and why they experienced information seeking.

At the time that I proposed this study, it made sense to me to consider communicative action (Benoit, 2002; Sundin & Johannisson, 2005) and integrate this into the conceptual framework. I believed this concept was complementary to information seeking research and to the theoretical framework. In retrospect, I realize that I created an unnecessary complication for myself and in doing so my focus may have been too broad, which may have weakened the hermeneutic phenomenology research approach I was striving to achieve.

Rousseau (2012) echoes similar reflections in her comments about the challenges she faced conducting a phenomenological study. In particular, she observes that at the time of conducting her research, there were (and still are) very few phenomenological studies investigating the lived experiences of distance/online students. In spite of the limitations and challenges I encountered with this tradition of inquiry, applying this particular research approach suggests potential for further investigation.

5.5 Future Research

The results of this study call for further exploration and investigation of information seeking experiences of distance/online learners. The learner profile presented in this study seemed more diverse with respect to physical/cognitive circumstances or challenges and English as a second language than the profile usually reported in the literature. The findings suggest that the distinction once made between the experiences of the off-campus and on-campus face-to-face student may be blurring and that information seeking behaviour of the on-campus and off-campus student may be
converging. Further research on these emerging trends is needed to confirm this and also to inform the research and changes in practice in the distance education and distance library services fields.

The information seeking experiences and behaviour of these participants revealed many insights about the high value placed on time, independence and self-reliance, self-imposed isolation, and a preference for Google as reliable source of information. In contrast, low value was placed on collaborative learning experiences, use of library resources and library services, along with perceptions about librarians that influenced their decision to seek assistance with information seeking. Further exploration of these perceptions and values would provide additional insights about the information seeking experiences and behaviour about distance/online learners.

Since the time this study was conducted, options have been added to the library web-pages of many academic libraries that offer enhanced search capabilities. These features, such as discovery layers that offer flexible and robust search refining tools, as well as search tool applications for mobile devices, seem to minimize barriers to information by improving the seamless and ubiquitous access to library information resources. These new enhancements invite further investigation to explore the impact of information seeking experiences for distance/online students.

5.6 Final Comments

Although there were limitations to this study, this study sheds some light on the phenomenon of the information seeking experiences of distance/online students. Those insights include the value participants placed on time, the Dunning-Kruger Effect, perceptions toward librarians and library resources, and ways in which participants
applied sense-making strategies to their searching experiences. This study also revealed findings related to isolation and collaborative learning that were in contrast to reported distance education literature. The results of this study revealed the participants’ everyday lived experiences with information seeking. With such small sample it is not possible to generalize to a broader population of distance/online learners; however their experiences are possible predictors for searching behaviour of distance/online learners.

In considering the types of hindrances the participants encountered, which have both positive and negative effects on information seeking, several initiatives are advisable to minimize the barriers and improve accessibility to information. Some of those practical steps include improvements to: library webpages, collaboration with distance educators, and library instruction sessions. Other strategies include finding ways to help distance learners have a better understanding of the role and value of library resources, services, and librarians. Additionally, this study highlighted some of the physical and cognitive circumstances that some students grapple with and the challenges these sometimes pose for access to information as well information seeking. These findings have implications for changes in policy at institutions to implement supports and accommodations.

The findings drawn from the results suggest that distance librarians and distance educators enhance awareness of the searching experiences, such as the relational dynamic of time, motivation, and source preference, along with the Dunning-Kruger Effect, and perceptions about librarians and library resources, have implications for changes to practice for distance librarians and distance educators.
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Appendices
Appendix A: Recruitment flier

Distance Students: Experiences with Information Seeking & Searching

Taking distance or online courses?
Your opinions are welcome & valuable.
You are invited to be part of a research study.

Purpose: investigate experiences with searching, seeking and accessing information from the perspective of distance students.

Criteria: taking distance or online course(s); live in Canada.

Participation: an interview, observation, journal entries, phone interview.

Participants: will receive gift cards and a chance to win an iPod.

More information: contact [e-mail] to receive an information package.

This study is being conducted to fulfill the research component of doctoral studies. For more information contact:

Nancy E. Black, co-investigator, [e-mail]
Dr. Edie Rasmussen, Principal Investigator, Professor, [e-mail]

The University of British Columbia
School of Library, Archival and Information Studies
Appendix B: Recruitment E-mail

Hello,

If you are taking distance or online courses your opinions and experiences are welcome and valuable for a research study I am conducting. I am a PhD student at the School of Library, Archival and Information Studies (SLAIS), of The University of British Columbia (UBC); this study is being conducted to fulfill the research component of my degree.

**Purpose:** investigate experiences with searching, seeking and accessing information from the perspective of distance students.

**Criteria:** taking distance or online courses; live in Canada.

**Interested?** Contact me: [e-mail] and I will mail an information package.

**Participants:** will have a chance to win an iPod (approximate chance of winning: 1 in 15). Gift cards will be given to each participant.

If you know someone who may be interested in participating, please forward this message.

Should you have any questions or would like further information about this study, please do not hesitate to contact me.

Thank you very much,
Nancy E. Black, co-investigator, [contact e-mail and phone number]

Principal Investigator:

Dr. Edie Rasmussen, Professor
School of Library, Archival and Information Studies
The University of British Columbia
[e-mail]
Appendix C: Recruitment UBC Student Newspaper

Are you a UBC **distance student**? Want to be part of a **research study**?
Contact doctoral student Nancy E. Black at [e-mail] to receive an information package.

**Study Purpose:** to investigate experiences with seeking and accessing information from the perspective of distance students.

**Participation:** an interview, observation of information seeking, journal entries, and follow-up phone interview.

This study is being conducted to fulfill the research component of doctoral studies with UBC’s School of Library, Archival and Information Studies (SLAIS). If you would like more information, please contact: Nancy E. Black, co-investigator, [e-mail] or Dr. Edie Rasmussen, Principal Investigator, Professor, [e-mail]
Appendix D: Contact Letter

THE UNIVERSITY OF BRITISH COLUMBIA

Contact Letter
Title of study: The Information Seeking Experiences of the Post-Secondary Distance/Online Student

Principal Investigator: Dr. Edie Rasmussen, Professor, School of Library, Archival and Information Studies.

Co-investigator: Nancy E. Black, PhD Candidate, School of Library, Archival and Information Studies.

Dear

Thank you for expressing interest in this research study. You are receiving this information because you responded to a recruitment notice about this study and contacted the researchers and provided your name and contact information. This letter and the consent form outline information about the study. If you are interested in participating, your opinions, comments, insights and experiences are valuable to this study.

Purpose of this study: This study will investigate experiences with searching, seeking and accessing information from the perspective of students taking distance or online courses.

Study Procedures: If you meet the inclusion criteria and decide to participate in this study, the co-investigator, Nancy E. Black will travel to your location and meet with you in a comfortable, natural setting. The consent letter provides additional details about the study procedures.

Voluntary participation: Participation in this research is voluntary and you may refuse to participate or withdraw from the study at any time.

Version date: October 25, 2009

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Honorarium: In acknowledgement and appreciation of your participation in this study, you will receive two gift cards at the beginning of the study and at the end of the study valued at $10 each. Participants will have a chance to win an iPod, approximate chance of winning: 1 in 15. Should you decide to withdraw from this study you will still be eligible to receive the second gift card and eligible to win an iPod.

Potential Risks: There are no known risks or harms associated with this study.

Confidentiality: The identity of participants will be kept strictly confidential. The consent letter provides additional details about confidentiality.

Contact for concerns about the rights of research subjects: If you have any concerns about your treatment or rights as a research subject with respect to this study, you may contact the Research Subject Information Line in the UBC Office of Research Services at [redacted] or if long distance e-mail to [redacted].

Contact for information about the study: If you have any questions with respect to this study, you may contact: Dr. Edie Rasmussen, Professor, School of Library, Archival and Information Studies, [redacted] or Nancy E. Black, co-investigator, [redacted].

If you meet the criteria, please consider participating in this study, your experiences, opinions and comments will be valuable to this study. I look forward to hearing from you soon.

Sincerely,

Nancy E. Black, PhD Candidate, co-investigator
School of Library, Archival and Information Studies (SLAIS)

Dr. Edie Rasmussen, Professor, Principal Investigator
School of Library, Archival and Information Studies (SLAIS)

Version date: October 28, 2009
Appendix E: Consent Form

THE UNIVERSITY OF BRITISH COLUMBIA

Consent Form
Title of study: The Information Seeking Experiences of the Post-Secondary Distance/Online Student

Principal Investigator: Dr. Edie Rasmussen, Professor, School of Library, Archival and Information Studies,

Co-Investigator: Nancy E. Black, PhD Candidate, School of Library, Archival and Information Studies,

This study is being conducted to fulfill the research component of PhD studies with the School of Library, Archival and Information Studies (SLAIS) of the University of British Columbia (UBC). You are receiving this information because you responded to a recruitment notice about this study and contacted the researchers and provided your name and contact information.

Purpose: The purpose of this study is to investigate experiences with seeking and accessing information from the perspective of students who are taking distance or online courses. This study will reveal insights about information seeking experiences, strategies employed in accessing and searching for information, and barriers encountered in accessing and searching for information. This study will contribute to information seeking research and will inform policy, practice and advocacy for distance/online students. Participants who meet the inclusion criteria are invited to participate in this study because they are considered knowledgeable informants of their own information seeking experiences.

Criteria for inclusion: Participants who are taking distance or online courses, and reside in Canada.
Study Procedures: If you meet the inclusion criteria and decide to participate in this study, the co-investigator, Nancy E. Black will travel to your location and meet with you in a comfortable, natural setting.

Participation and time for this study will involve a semi-structured interview of no more than one to two hours. The interview will be audio-taped. The interview will be followed by observing the participant search for information using a computer with Internet access. Observation of this experience will be video-taped and will last no more than 15 minutes. This will be followed by viewing and discussing the video together and will last approximately half an hour to one hour. This discussion will be audio-taped. This portion of participation will require a minimum of 2 hours of time to a maximum of 3 hours of time.

Participants will also be asked to keep journal entries recording experiences with accessing and seeking information of a minimum of one entry to a maximum of three entries over a time period of one to four weeks. Length of entries and amount of time devoted to entries is left to the discretion of the participant. Journal entries can be handwritten or word processed and can be either mailed or e-mailed to the co-investigator. A follow up telephone interview which will be audio taped of no more than half an hour will be conducted within four-six weeks after the initial interview. The purpose of the follow up interview is to allow participants the opportunity to provide any final thoughts or comments about their information seeking experiences or to clarify comments about information seeking experiences.

A summary of the initial interview and the follow up phone interview will be made available to the participant before the conclusion of this study.

Voluntary participation: Participation in this research is voluntary and you may refuse to participate or withdraw from the study at any time.

Honorarium: In acknowledgement and appreciation of your participation in this study, you will receive two gift cards valued at $10 each; one at the time of the initial interview and one following the telephone interview. You will have a chance to win an iPod; approximate chance of winning: 1 in 15. Should you decide to withdraw from this study you will still be eligible to receive the second gift card and eligible to win an iPod.

Potential Risks: There are no known risks or harms associated with this study. Participants may feel tired following the interview, the video taping and subsequent discussion. To minimize this potential inconvenience, the interview and observation will be scheduled at the convenience of the

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participant. During the interview, observation and subsequent discussion, breaks can be taken as or if needed.

**Potential Benefits:** The potential benefits may include: you may find participation in the study interesting and informative, you may reflect and learn more about approaches or strategies for seeking and accessing information and you may learn more about your information seeking preferences and approaches. A summary of findings can be made available to participants upon request.

**Confidentiality:** The identity of participants will be kept strictly confidential. Subjects will not be identified by name in any reports of the completed study. Participants will be given a pseudonym. All documents, data, audio and video tapes will be kept secure and locked. Identifying information will be removed or kept separate from the data. The principal investigator and the co-investigator are the only individuals who will have access to the data for the purposes of analysis. Upon completion of the analysis, all documentation will be kept in a locked filing cabinet in the principal investigator's office and only the principal investigator and co-investigator will have access to this data.

**Video use:** For the purposes of educational presentations the observational video tapes might be used. If this occurs, care will be taken not to display or present faces or identifying information. Participants will have the option of signing consent for use of video for presentation purposes. Participants may choose not to consent to use of videos for presentation. Still photos from videos will not be created or used for reports of the completed study.

**Future use of data:** There is potential for future use of the data beyond the conclusion of this study. Analysis of the data collected from the interviews, audio and video tapes, and journal entries may inform future research that builds on the findings of this initial study. Should this occur, participants will not be contacted again for consent. By signing the consent form it is understood that consent has been given for future use of data collected in this study.

**Contact for information about the study:** If you have any questions or desire further information with respect to this study, you may contact Dr. Edie Rasmussen, Professor, School of Library, Archival and Information Studies, or Nancy E. Black, co-investigator.
Contact for concerns about the rights of research subjects: If you have any concerns about your treatment or rights as a research subject with respect to this study, you may contact the Research Subject Information Line in the UBC Office of Research Services or long distance e-mail to:

Consent: Your participation in this study is entirely voluntary and you may refuse to participate or withdraw from the study at any time.

Consent for participation in study:
Your signature below indicates that you have received a copy of this consent form for your own records.

Your signature indicates that you consent to participate in this study. Your signature indicates that you consent to future use of data collected in this study beyond the conclusion of this study.

__________________________  ______________________
Subject Signature            Date

__________________________
Printed Name of Subject

Consent for video use for the purposes of educational presentations:
Your signature below indicates that you have received a copy of this consent form for your own records.

Your signature indicates that you consent to the use of the video for the purposes of educational presentations.

__________________________  ______________________
Subject Signature            Date

__________________________
Printed Name of Subject

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Appendix F: Open-Ended Semi-Structured Interview Protocol

1) When you think about “searching for information” what comes to mind for you? Follow-up question: Give me examples of reasons why you search for information. [Possible questions for prompting and probing: May probe further on this response; may ask for additional detail about examples and reasons; may ask or probe further on reasons for searching for information.]

2) When you are searching for information, which locations do you work from: home, work, or other locations? When you are searching for information are you engaged in more than one task at a time? [Possible questions for prompting and probing: May probe further on this response; may ask for additional detail about multi-tasking examples.]

3) When you think about searching for information and finding information, do you make a distinction between searching and finding and if so what does that distinction mean to you? [Possible question for prompting and probing: In light of that distinction between searching and finding, what can you tell me about your experiences?]

4) From your perspective as a student taking distance or online courses, tell me about your experiences with searching for information and finding information; what is it like for you? [Possible questions for prompting and probing: based on response to first two questions, may re-frame this question to connect with and build/expand on responses; may probe further with response and ask for detail on an element or elements of response.]

5) When you are searching for information, would you say that you have a particular approach or approaches or particular strategies? If so, tell me more, describe this for me. Follow-up questions: What approach or strategy would you say works well for you? Are there approaches that you have tried that do not work so well? [Possible questions for prompting and probing: Do you ever assess your strategies, do you change your strategies, do you try different strategies? Has anyone ever given you advice about strategies to use to search and find information? If someone asked your advice on how to find information, what would tell them?]

6) Think of a time when you needed information for an assignment, describe this for me: what was the situation, what was the experience, what was the process? Follow-up questions: What happened, what was the outcome? Would you say that your experiences were successful or difficult; satisfying or frustrating? [Possible question for prompting and probing: Did you find the information you needed? Why or why not? May probe for further details on response to question about searching experience. May ask for other experiences that are similar to and different from the example given. A response to this question may naturally lead into questions 7 and 8 about use
of information sources and library resources; if this happens, I will just naturally move forward to questions 7 and 8.]

7) When you are searching for information, think about sources that you might use and how you use those sources: do you tend to try one source, then try another source, do you have preferred sources, do you search more than one source at the same time, tell me more about this. [Possible questions for prompting and probing: may probe about other sources such as, friends, classmates, web surfing, or anything else that may come to mind for individual. May probe by following up on elements of response that might link or connect or contradict earlier responses and may ask for further detail.]

8) Do you use library resources when you are searching for information? Tell me about your experiences searching for information through the library. Follow up questions: How do you access the library and library resources? Tell me about some of the resources that you use through the library. How would you characterize your experiences; would you say that your experiences were successful or difficult; satisfying or frustrating? What do you do if you need assistance? [Possible question for prompting and probing: May probe for further details on response to question about searching experiences through the library; will probe further if comments are made about: success, satisfaction, difficulty, frustration, confusion, anxiety, uncertainty, floundering, giving up or other “flag” words that are indicative of experiences/behaviour.]

9) Sometimes people discover information informally and incidentally “by accident”, or “by coincidence” or “by chance”. Have you had this experience? What can you tell me about this? [Possible questions for prompting and probing: may probe by suggesting that information is sometimes discovered through conversations or browsing newspapers, books, magazines, listening to media sources or surfing the net. May probe further on response; or may probe further by linking some aspect of this response back to earlier responses if I think there may be a connection or a contradiction.]

10) Is there anything else about your experiences searching for information that you would like to tell me?
Appendix G: Observation Protocol

The protocol for observation of this information seeking event did not impose a search query and drew on two methods: close observation (Van Manen, 1999), and verbal protocol analysis (Branch, 2000, 2001). This event was video-taped; the video was then viewed and discussed with the participant; the discussion was recorded.

Observation Protocol

Participant:

Date:

Length of searching time; Information Seeking Activity/Event (topic, need/purpose)

Notes taken of discussion when viewing the recorded event

Field notes (added later by researcher)
Appendix H: Reflexive Journal Protocol

Directions / suggestions for participants were: “please record your experiences searching for information either in an organized purposeful approach or information that you find ‘by accident’ when you weren’t deliberately looking for information, from whatever source: library, internet, friends, family, instructors; please try to describe what happened, what you learned, how you found the information, or how the information found you; tell your thoughts, feelings, reactions, whatever that might be. Please avoid the use of personal names of individuals; instead refer to individuals by title, such as: ‘my instructor’, or ‘the librarian’, or ‘my friend’, or ‘my colleague’. To differentiate between more than one individual of the same title, please use letters or numbers, such as: ‘my friend A’, ‘my friend B’ and so on.”

Date:

Activity:

Strategies:

What happened?

How did you feel?

What did you do?

What worked?

What didn’t work?

What else do you want to tell me?