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INCLUSIVE ANDRAGOGY IN DISTANCE EDUCATION: A PHENOMENOLOGICAL PERSPECTIVE

BY

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Dedication

It is with my deepest appreciation that I extend a heart felt thanks to those that intimately walked this journey with me. Hence, I dedicate this thesis to my husband and our children, who generously made space in our lives to include this endeavor. This work embodied a lifetime passion for which your endurance, support, and encouragement were beyond thanks.

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Abstract

The purpose of this qualitative study was to understand inclusive andragogy in distance education through the lived experiences of students and stakeholders involved in online teaching at a Canadian postsecondary institution. Factors influencing a barrier-free learning environment were explored from a systems perspective, utilizing the principles of universal design for learning (UDL). Semi-structured interviews were conducted using a focus group strategy and individual interviews with 10 stakeholders, and an online survey with 4 students. Through the lens of experiential phenomenology, data were thematically analyzed revealing the practical concerns and awareness of inclusive andragogy in distance education as lived day to day. Key findings suggest inclusive andragogy requires a systemic approach to address learner and cultural variability. Specifically, systemic, curricular, technological and social accessibility supported by awareness training and interdisciplinary team knowledge and collaboration emerged as essential themes of the participants' lived experiences.

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Chapter 1 - INTRODUCTION

Inclusive andragogy is a values-driven construct based upon the premise that adult education can encompass variability in learning for all students through universally designed curricula enhancing accessibility for everyone (Rose, 2006). For those who experience barriers to mainstream education, this is a shift in traditional instruction supported by legislation and work conducted on behalf of disability advocacy groups.

Despite efforts to reduce social and economic barriers through initiatives which enhance equality and participation in education, adults with impairments and unique learning needs continue to experience barriers in the postsecondary sector due to the complexities of inclusion and the "multiple interpretations" surrounding its implementation (MacKean, 2007; Masalela, 2009). Practices that emphasize remediation, alternative curriculums, and specialist supports from a deficits perspective have been steeped in historical and socio-political belief systems, culminating in exclusionary practices and policies that are firmly embedded in traditional education systems (Masalela, 2009; Skidmore, 2002).

The conceptual framework of universal design for learning (UDL) provides a means from which inclusive andragogy can be explored (Hitchcock & Stahl, 2003; Rose, 2006). The three overarching principles in conjunction with the associated guidelines provide a level of specificity to address variability in learning, while attending to the process and production of accessible and inclusive courses (see Figure 1).

I. Provide Multiple Means of Representation

1. Provide options for perception	1.1 Offer ways of customizing the display of information 1.2 Offer alternative for auditory information 1.3 Offer alternative for visual information
2. Provide options for language, mathematical expressions, and symbols	2.1 Clarify vocabulary and symbols 2.2 Clarify syntax and structure 2.3 Support decoding of text, mathematical notations, and symbols
3. Provide options for comprehension	3.1 Activate or supply background knowledge 3.2 Highlight patterns, critical features, big ideas, and relationships 3.3 Guide information processing, visualization, and manipulation

➔ **Resourceful, knowledgeable learners**

II. Provide Multiple Means of Action and Expression

4: Provide options for physical action	4.1 Vary the methods for response and navigation 4.2 Optimize access to tools and assistive technologies
5. Provide options for expression and communication	5.1 Use multiple media for communication 5.2 Use multiple tools for construction and composition 5.3 Build fluencies with graduated levels of support for practice and performance
6. Provide options for executive functions	6.1 Guide appropriate goal-setting 6.2 Support planning and strategy development 6.3 Facilitate managing information and resources 6.4 Enhance capacity for monitoring progress

➔ **Strategic, goal-directed learners**

III. Provide Multiple Means of Engagement

7: Provide options for recruiting interest	7.1 Optimize individual choice and autonomy 7.2 Optimize relevance, value, and authenticity 7.3 Minimize threats and distractions
8: Provide options for sustaining effort and persistence	8.1 Heighten salience of goals and objectives 8.2 Vary demands and resources to optimize challenge 8.3 Foster collaboration and community 8.4 Increase mastery-oriented feedback
9: Provide options for self-regulation	9.1 Promote expectations and beliefs that optimize motivation 9.2 Facilitate personal coping skills and strategies 9.3 Develop self-assessment and reflection

➔ **Purposeful, motivated learners**

Figure 1: Universal Design for Learning Guidelines Version 2.0

Research utilizing UDL as a framework has demonstrated that the design and implementation of accessible curricula can encompass the learning needs of

all students without specialized forms of accommodations that exist outside the main curricula when in combination with supporting philosophies and practices (Burgstahler, 2006; Council for Exceptional Children (CEC), 2005; Meyer & Rose, 2002; Rose, 2006). As a framework used successfully in the K-12 sector over the past 20 years, there has been an emergence of postsecondary institutions embedding this framework into their policies and practices throughout the United States, and more recently in Canada.

Inclusive andragogy and associated practices are not articulated well in distance education research, despite the increase in diversity observed in the postsecondary sector. The emergence of flexible distance education (DE) delivery models and dominant instructional practices concentrating on learner-centred approaches are steps towards inclusiveness. However, barriers still exist for individuals with visible and invisible disabilities (i.e. physical, learning or cognitive impairments, respectively) and those whose dominant language is not English. In order to understand how to reduce barriers to diverse learners, there is a need to understand the essence of inclusive andragogy as a phenomenon in distance education.

Statement of the Problem

Four years ago, a postsecondary online certificate program was launched to address provincial training needs for paraprofessionals working with children and youth diagnosed with autism in family homes, schools or in the community. The program was developed to assist students in learning a specialized skill set to

support children and youth in various domains, in addition to strategies for enhancing inclusion for persons with disabilities.

The online program has fulfilled a need for paraprofessionals who have met the academic prerequisites of the institution while living in local, rural and remote communities. Using Blackboard learning management system and Blackboard Collaborate as the primary means for delivery, five courses and a practicum have been delivered online by faculty who designed and developed the courses for an increasingly diverse population of adult learners.

Over the four years of teaching in this program, I found that despite support from instructors, learning support services or the helpdesk department, some students continued to experience barriers to learning in the online environment, which limited their involvement and ultimate success in the courses. The values that guided the content in these courses were based upon principles of inclusion and evidenced based research. However, it was uncertain whether these principles were translated and reflected in the delivery format and instructional practices to support learner success. The UDL framework provided a means by which the barriers could be examined in context of adult learning. As an ill-defined construct in distance education, there was a need to explore the essence of inclusive andragogy in this program from the perspective of learners and stakeholders within the system to prevent inadvertent barriers to students with diverse learning needs.

Definition of Terms

To provide context for the terminology used throughout this study, the following definitions were used in relation to the study and its objectives.

1. *Accessibility* – Based upon the Convention on the Rights for Persons with Disabilities [A/RES/61/106], accessibility referred to equal and equitable access for all students and stakeholders within the postsecondary environment as it pertained to "the physical [and online] environment...information and communications, including information and communications technologies and systems, and to other facilities and services open or provided to the public, both in urban and in rural areas," including the availability of accommodations if required to enable equal access to information (United Nations, 2007, Article 9).
2. *Accommodation* – policies, processes and activities that have made "alterations to the delivery of services so that those services become accessible to more people, including persons with disabilities...to ensure full participation in all aspects of their educational experience" (Alberta Human Rights Commission, 2010, p. 3).
3. *Andragogy* – In context of this study, the term 'andragogy' was selected based upon the distinction between children and adults marked by age and maturation, rather than a distinction between similarities or differences between *how* children or adults learn as a theory of learning, as debated in the literature. Based upon the work and research of Knowles (1980), the tenets of andragogy drew upon Knowles' 5 assumptions, which suggested

adult learners have an "independent self-concept" with an agency toward directing their learning; they utilized prior experiences to support and inform their understanding of new learning; they favored learning that is relevant and associated with "new social roles"; they had an intrinsic motivation for learning; and as problem solvers, they preferred practical applications in their learning (Merriam, 2001, p 5). Self-direction was interpreted as adults' making choices and self-selecting an area of study in adult education to fulfill their career aspirations, motivated by intrinsic interests and external economic and social demands.

4. *Assistive Technologies* were defined as software and hardware technologies that enabled users to enhance their functional capabilities when interacting with barriers in the environment. Assistive technologies have been designed to meet the unique needs of the individual while being extensions of the learning environment (AccessIT, 2013).
5. *Distance Education* – Academic education and instruction delivered to a "learning group [that has been] separated, [but bound together by] telecommunications systems used to connect learners, resources and instructors" (Todhunter, 2013, p. 236). The term 'group' was represented by the students who studied in a closed program as a cohort, utilizing a combination of synchronous and asynchronous activities for individualized and collaborative study. The term *online learning environment* was used synonymously with "distance education" within the context of this study.

6. *Learning:* Learning was defined as processes activated within the receptive, strategic and affective networks of the brain associated with learning, in combination with the interactions associated with cultural, environmental, and social influences to facilitate, reinforce, and enhance the acquisition, creation, generalization and application of new knowledge and skills in multiple contexts (Rose, 2002; Bransford, Brown, & Cocking, 2000). It was assumed that learners experienced a continuum of instructional strategies grounded in behaviourism, cognitivism, constructivism and humanism, influenced by instructors' worldviews on learning and the type of learning required to meet different competencies required for the field of practice.
7. *Inclusion* – "a process [that addressed and responded] to the diversity of needs of all learners through increased participation in learning, cultures and communities, and reduced [exclusionary practices] within and from education" (UNESCSO, 2005, p 13).
8. *Inclusive andragogy* – The term *inclusive andragogy* had multiple interpretations. For this study, it was defined as adult education that was accessible and socially inclusive to all learners, supported by universal design principles and instructional practices integrated into curriculum and supported by institutional supports and services.
9. *Universal Design for Learning* – An iterative framework based upon universal design principles for developing and implementing curriculum that is accessible and facilitates learning for everyone to the greatest extent

possible (CAST, 2013, Rose, 2006). Addressing learner variability and diversity has been achieved by aligning instructional practices with processes involving recognition networks, strategic networks and affective networks affiliated within the learning brain, as depicted in Figure 1. Three principles associated with the structures, design and implementation of curricula were based upon evidence-based research in cognitive neurosciences. These principles informed instructional strategies and instructional design for content, assessment, and feedback by utilizing (a) multiple means of representation, (b) multiple means of action and expression, and (c) multiple means of engagement (CAST, 2013; Rose & Meyer, 2002).

Purpose of the Study

The purpose of this phenomenological study was to understand the essence of inclusive andragogy in distance education as experienced by students, faculty and support staff while considering the principles of UDL in an online program at a postsecondary institution in western Canada.

In shaping future reiterations of the courses and examining peripheral supports that support inclusive andragogy, the key objectives related to this study included:

- Understanding what barriers students experienced in relation to their learning when enrolled in the program and how these barriers were addressed on a systemic level;

- Understanding how the online courses and supporting services utilized principles of universal design for learning, reflecting the philosophies and practices of the program; and
- Understanding what factors influenced the use or nonuse of UDL principles while informing online curricula.

Delimitations and Limitations

Learning environment.

The limitations of this study concerned the learning platform supported by the institution. No other learning technologies than Blackboard LMS and Collaborate were considered in this study, unless it related to the learning resources website. These were technologies shared in common by all students and stakeholders and related to experiences pointing towards inclusiveness.

Participants and setting.

Based upon voluntary participation, participants in this study consisted of two distinct groups through purposive sampling. The first group was comprised of 4 students studying online in the program between fall 2012 and fall 2013, from a cohort of 30. Other than a minimum age criterion of 19, no other age restriction was implemented for this study. Inclusion criteria were based upon current or prior experience in receiving accommodations or support in an academic setting, self-identification and report of a learning disability, and/or self-reported challenges in studying online. I defined online challenges as difficulties associated with content, communication, assessments or technology that had impacted student learning.

The exclusion of other students from this cohort limited the ability to generalize the findings beyond the study due to the sampling strategy and phenomenological approach to inquiry being employed. However, the specific purpose and scope of understanding inclusive andragogy from those that experienced barriers was preferable to obtain rich descriptions of their lived experiences.

The second group comprised employees directly associated with the department, the program and online teaching, and herein, were referred to as the *stakeholders*. With the intention of understanding the phenomenon through the experiences of faculty and staff who taught, developed or provided peripheral supports to the program, it was anticipated that a richer and more holistic representation of inclusive andragogy could emerge. Membership was delimited to 10 participants that included 4 faculty from the department and had a minimum of 2 years experience teaching online. Two of these members taught directly in the program. Other members included 3 employees from the library and learning resources team, an academic technology specialist, a learning specialist from the disability student support centre, and a distance education resource teacher from the K-12 sector who provided transition support for students pursuing postsecondary education.

Researcher Profile

The presence of the researcher must be explored for purposes of subjectivity and inter-subjectivity, and in my role as the only researcher and a faculty member in this program, several decisions were made to address conflict of interest while embracing phenomenological methodology. In the first instance,

students were only recruited from the pool where no direct teaching relationship existed to reduce any perceived or real conflict of interest between the students and myself. Therefore, only recent graduates or students who studied between fall 2012 and fall 2013 were eligible to participate.

In the second instance, I had to be sensitive to my working relationships with the stakeholders, while reconciling my choice of phenomenological methodology. My working relationship to the participants was close and could limit my ability to fully embrace the essence of their lived experiences without projecting my own lived experience on my interpretations of the data. Transcendental phenomenologists have recommended bracketing one's experiences to enhance the authenticity of the participants' lived experiences, while adhering to a more objective stance. Hermeneutic phenomenologists have disputed the practice of bracketing, suggesting that a researcher can not be objective or separated from the text or interpretations of the data as "the ideal 'essences' of experience or consciousness [can not] be isolated outside of the researcher's cultural and historical location," (Friesen, Henriksson, Saevi, 2012, p 1).

My personal perspective aligned with hermeneutic thinking. In shifting cultural and social perspectives, the professional discourse on disability and inclusion heavily influenced my preconceived notions of *inclusiveness* being a transferable concept to the online learning environment. I knew the universal design for learning framework provided an alternative to view teaching and learning from an enriched perspective, by providing another means by which

"inclusiveness" could be pursued. By exploring the UDL framework in the online context, work could progress towards minimizing the disabling aspects of the educational environment to enhance barrier free learning for *all* students (Rose & Meyer, 2002; Burgstahler, 2009).

At the same time, I recognized that not everyone might share my perspective, or fully recognize UDL as a framework that could be useful in the online environment. I valued my working relationships with the stakeholders and sought to honor their perspectives and contributions to the greatest degree without jeopardizing our relationship, or making judgments about their use or non-use of inclusive practices. To this end, a more objective stance was taken by illuminating my own understandings of the phenomena as much as possible prior to launching the study, through data collection, data analysis and the writing of the final report to enhance the validity of the study (Creswell, 2007; Van Manen, 1990). To ensure the experiences and descriptions of the phenomena were authentic, participants reviewed their transcripts upon completion of the interviews and focus groups. This enabled them to provide feedback, as well as identify any areas that were to be redacted from the transcript.

Illuminating my own understanding.

In pursuing this study, I saw an opportunity for merging my three worlds as an instructor, an advocate for individuals who experienced barriers in community, and my knowledge gleaned from my studies as a graduate student from the Athabasca University Centre for Distance Education. This provided a means by which my understanding of inclusiveness andragogy could be explored, enhancing

my practices as an online instructor. As a faculty member involved in the program and various committees associated with online teaching, this study also enabled me to examine the processes of our work that impacted the reality of inclusiveness for diverse learners. Hence, the lived experiences from the "collective" were deemed the most informative means to examine the phenomenon, therefore influencing my methodology and data collection procedures.

When I oriented myself to the concept of inclusiveness in the online learning environment, I sought to understand the nuances that contributed to a more inclusive and barrier free learning environment. This concept appeared to be *an ideal* yet to be achieved and one that brought up further questions about the biases and knowledge surrounding diverse learners in the online learning environment. When I reflected on my teaching experiences or recalled the barriers that students and other faculty had encountered in the online environment, reoccurring themes of deficit-based support, lack of awareness, and systemic and technological barriers emerged.

I felt the pressure of being disingenuous in my own practice when creating learning experiences that I knew were insufficient in addressing the level of accessibility that was needed for these courses based upon our targeted audience, and being at variance with some of the systemic practices that perpetuated inaccessibility due to other institutional priorities. When I encountered students that repeatedly experienced barriers in their learning, I was convinced UDL had its place in online learning and could address some of the systemic challenges that contributed to educational barriers for many students.

My own instructional strategies reflected some elements of UDL, while incorporating sanctioned formats, available LMS tools and adherence to institutional policies, yet...they seemed insufficient in addressing the scope of learning needs which were both obvious and covert. I reflected on some of the issues I had encountered as an instructor where significant barriers in the learning environment had not been anticipated in the development of the courses. I was conscious of creating a learning environment that had high levels of interaction due to the sensitivity of the subject matter. I was also aware that I needed to strike a balance between being too text heavy and providing multimedia alternatives to ensure there were multiple ways of engaging with the content that attended to different and preferred learning styles. Despite attempts to address these issues using the principles of UDL, I inadvertently developed an inequitable learning environment for some students due to insufficient knowledge about their unique learning needs and the limitations of the technologies. In each of the following scenarios, solutions had to be addressed while the courses were in progress, placing extra stress on the students who were falling behind as a result of it not being fully accessible. In some of the cases, an interdepartmental solution was required for solutions that needed interpreters, assistive technologies, transcripts and/or captioning on videos. In other cases, the students were put in the position of doubling their efforts to access or work with content when compared to their peers. The examples presented below further reinforced my convictions surrounding the utility in UDL as viable framework for enhancing inclusive

andragogy in distance education, especially at the front end of course development (see Table 1).

Table 1. *Examples of Barriers Experienced by Students*

	Scenarios
Example 1	A deaf student who spoke English was required to participate in live Collaborate sessions as part of the course requirements. Although the sessions were recorded and could be sent out externally for transcripts, this solution was not inclusive and did not enable the student to engage in a meaningful way with the cohort. After significant effort and coordination on part of the learning specialist, a solution was found utilizing Communication Access Real-time Translation (CART) services. This enabled the student to participate synchronously while referring to transcripts in real-time. Despite a successful solution, the student had to *fit* the environment in order to learn, rather than the course being designed to allow for equitable access at the beginning.
Example 2	A student with an undisclosed disability had high levels of anxiety about learning due to negative feedback in the past about written work. Despite high levels of comprehension and an ability to synthesize the concepts, written assignments consistently had the first two words in 85% of the sentences missing. This suggested that the student experienced some form of dysgraphia (a learning disability in writing) but had not developed strategies for overcoming this issue. Despite assistance from the learning centre and an opportunity to re-write, the assignments remained relatively unchanged. Providing assistance and empowering the student to be self-directed required more than written feedback. After considerable thought, I suggested using an auditory alternative with free text-to-speech software, which enabled the student to 'hear' the sentences when editing. This minor adjustment to the learning environment resulted in a 17% increase in the overall grade, marked by a sense of accomplishment. Further this strategy enabled the student to have ownership and control over his learning. Unfortunately, this easy text-to-speech alternative was not a supported technology despite it being a tool that made a significant difference for this student.
Example 3	The majority of videos embedded in course units were not closed-captioned, and those that had transcripts available (i.e. YouTube) were significantly inaccurate. When I had time, I transcribed the videos and added them to my courses. Yet, there were several that still required transcripts. For one student who was hard-of-hearing and could lip-read, the lack of captioning and transcripts resulted in experiencing barriers with this medium, even when using surround-sound to amplify the volume. Unbeknownst to me, the presence of the speaker's moustache in the videos prevented the student from being able to lip-read, adding to the inequity of the learning resources that I had selected.

As a faculty member involved in the program and various committees associated with online teaching, this study provided the impetus to examine the reality of

inclusiveness for diverse learners studying online. After reflecting on my own experiences as much as possible, the lived experiences from the "collective" were deemed the most informative means to begin examining the phenomenon, which influenced my methodology and data collection procedures.

Research Question

The central question that guided this study was, *what meaning do students, faculty and support staff ascribe to inclusive andragogy in distance education while utilizing the principles of universal design for learning framework?* To address this question more specifically, subquestions provided more depth for issue-oriented questions that highlighted the areas of concern. Further, procedural oriented questions were considered in aligning with a phenomenological approach to inquiry as depicted in Table 2 (Creswell, 2007).

Table 2. *Issue and Procedural Oriented Questions*

Issue oriented questions	• What experiences did faculty/staff have with diverse learners? • How did students experience online learning? • What barriers did students experience in online learning? • How did students manage barriers to learning? • What experiences did faculty/staff have with UDL? • What factors contributed to an inclusive online learning environment? • What determinants informed the choices faculty made when developing online content and assessment for diverse learners? • What factors enhanced learning for diverse learners with selected technologies? • What factors inhibited learning for diverse learners with selected technologies? • What types of supports contributed to an inclusive online learning environment? • How did student experience support in online learning?
Procedural oriented questions	• What statements described the experiences of inclusive adult education? • What were the contextual factors that enhanced or created barriers for diverse learners when studying online? • In consideration of UDL principles, what were the underlying themes that emerged from the experiences of participants in relation to inclusive andragogy in distance education?

Organization of the Thesis

In order to set the stage for understanding the phenomenon, this chapter served to capture the foundation from which the remaining chapters follow. The introduction provided a glimpse into inclusive andragogy in postsecondary education and the problem to be addressed from a distance education perspective. Establishing the purpose for conducting this research, the delimitations and limitations were highlighted to provide further context for the reader in understanding the scope of this qualitative inquiry and the central research question.

To provide transparency to the methodology employed, Chapter II provides an overview about what is known in the literature about inclusive andragogy in distance education in relation to universal design for learning. Based upon hermeneutic phenomenology, this "constituted an inevitable and basic structure of our 'being-in-the-world,' [as when I described and interpreted the experiences of the participants, I] experienced [inclusive andragogy in online learning] as something that has already been interpreted", (Findlay, 2009, p. 11). This provided the opportunity to examine new meanings attributed to inclusive andragogy in distance education to address some of the gaps in the literature, as described in Chapters III – V.

Chapter III describes the methodology used to conduct the study, including the philosophical assumptions that informed my research design and decision-making throughout the research process. A dichotomy exists between the ontologies of phenomenological research influenced by the works of Husserl (transcendental phenomenology) and Heidegger (hermeneutic phenomenology). This study situated itself on the continuum of phenomenological approaches to inquiry with an orientation toward existential phenomenology, "a reflective and practical focus on lived experience" as advanced by the works of van Manen (Finlay, 2009, p. 9). Further, validation strategies were described as a means to highlight the trustworthiness of the study and its findings.

Chapter IV provides the context from which the participants perceived inclusive andragogy in the online learning environment. Their textual and structural statements provided the basis for thematic descriptions that emerged

from the interviews. These themes informed my interpretation of the findings, which reflected an orientation *toward* the phenomenon as experienced by the participants, as well as the meaning derived from these descriptions imposed through the principles of universal design for learning (Findlay, 2009).

Chapter V provides a discussion of the findings in relation to the literature, concluding with recommendations for further research and my final reflections on the study.

Chapter II - LITERATURE REVIEW

Background

The purpose of conducting a literature review was to determine whether the issue was worth studying based upon what was known about the phenomenon, what gaps existed in scholarly discourse, and what ethical issues were associated with conducting the research (Creswell, 2009). An in-depth literature review assisted me in narrowing the scope of the research question, while building on the work of other researchers to contribute to the literature (Creswell, 2009).

In selecting a phenomenological approach to inquiry, it was pertinent to note that phenomenological purists argued against in-depth literature reviews because of the possibility of increased researcher bias perpetuated by the influence from the literature. Others with a more practical perspective argued that it was advantageous to "build upon previous work [which] set the stage for deeper description, conceptual development, and theoretical refinement," (Creswell, 2009; Padgett, 2008, p 46). In support of the latter perspective, this study sought to build upon previous work to expand the discourse and conceptual development of inclusive andragogy in distance education with the intent and "assumption of learning from the participants" in a closed environment during a specified point in time (Creswell, 2009). The following reflected what was known and existed in the literature prior to conducting this study.

Status of individuals with disabilities.

Individuals with reported disabilities and mental health conditions represented a small segment of the general population in postsecondary education, averaging between 1.5% and 11% across North America (Fichten, et al., 2003; Harrison & Wolforth, 2012; Klemes, et. al., 2006; MacKean, 2011). These percentages varied greatly depending upon the size and type of the institution, with higher rates of enrollment being reported in colleges and distance education institutions (Fichten, et al., 2003). Advancements in learning and assistive technologies, as well as provisions in disabilities supports, were viewed as central factors contributing to the increase in enrollment and graduation rates from colleges for individuals with disabilities (Harrison & Wolforth, 2012; Klemes, et. al, 2006; MacKean, 2011).

For individuals selecting distance education as the preferred mode of delivery and study, students with visual or auditory impairments appeared more "visible" in the literature (Long, Marchetti & Fosse, 2011; Richardson, 2009; Russell & Demko, n.d.). However, several studies examined student characteristics and indicated that intellectual, emotional, psychiatric disabilities, attention deficit disorder, autism/Asperger's syndrome, mobility impairment and learning disabilities were more prominent in student profiles, yet received little attention in DE literature (McKeown, Banderjee, Madaus & Gelbar, 2012; Moisey, 2004). These findings were consistent with other studies that cited medical conditions, restricted mobility and mental health difficulties as the highest percentage of self reported disabilities (Klemes, et. al, 2006; Richardson, 2009).

It was important to note that these figures reflected the status of individuals who met academic criteria in pursuit of credentialed programs, or met the criteria for provincially funded programs for Adult Special Education (Nakamura, Thola, Bigsby, et al., 2006).

Legal Imperatives

Two pieces of legislation guided the equal and fair treatment of individuals with disability under Canadian law. Under the Canadian Charter of Rights (1982), sec 15(1):

> Every individual is equal before and under the law and has the right to the equal protection and equal benefit of the law without discrimination and, in particular without discrimination based on race, national or ethnic origin, colour, religion, sex, age, or mental or physical disability.

Interpretation and implementation of this law has been guided through further legislation under the Canadian Human Rights Act and provincial Human Rights Codes. Under this legislation, employers [and institutions] had the legal "duty to accommodate" individuals with disabilities to prevent discrimination, although not to the point of 'undue hardship' on the part of employers [or institutions] (Canadian Human Rights Act).

Duty to accommodate.

Many of the Canadian universities and colleges had disability services and support programs in place for physical and academic support through federal and provincial funding (Holmes, 2005). However, lack of knowledge from key stakeholders to provide appropriate accommodations, in addition to wait lists for support services remained barriers for eligible students. Unfortunately, many

students did not meet eligibility requirements and others lacked confidence to self-report their disability (Barnard-Brak, Paton & Sulak, 2010, Cook & Gladhart, 2002; Fichten, et al., 2003; Izzo, Murray and Novak, 2008; Kinash, Crichton & Kim-Rupnow, 2004; Schmetzke, 2001). There was a suggestion that although distance education was viewed as an effective delivery mode for many students with disabilities who required a flexible learning environment, low participation rates were reported by many postsecondary institutions (Kim-Rupnow, Dowrick and Burke, 2001; Klemes, 2007; Richardson, 2009). It was uncertain whether low participation was a student based decision, or an outcome of sociopolitical and environmental barriers.

Institutional Policies

"Accommodation of students with disabilities at the postsecondary level [had not been subjected] to the same detailed legislative structures as at the primary and secondary levels" (Ontario Human Rights Commission, 2013, ¶ 4). As a result, "no regulations [existed in regards to] what institutions of higher learning had to do to make online course offerings accessible to students with disabilities," (Edmonds, 2004, p 53). The implications had far reaching effects, which impacted attrition and retention, as well as employment and economic status (Edmonds, 2004; Mathews, 2009). In response to this gap, there was an emergence of didactic and grey literature addressing these issues, as well as a concerted effort by some universities to provide guidance and awareness building on their websites for faculty who taught online (Burgstahler, 2002). Where institutions had implemented accessibility policies, an interpretation of the laws

did not necessarily equate to accessible course sites or accessible content (Edmonds, 2004; Richardson, 2009; Kim-Rupnow, Dowrick and Burke, 2001).

Accommodation policies.

Accommodation policies often reflected practices situated in the medical model of disability. From this perspective, services and supports were structured and funded on the basis of the impairment or disability, and access was often contingent upon professional diagnoses and assessments to support one's application (Matthews, 2009). Accommodation from this frame of reference perpetuated a disabling environment. For example, "academic deficits or disability [had been] misdiagnosed in the face of linguistic or cultural differences" (Reimer, 2010, p 32). This inadvertently led to ineffective instructional approaches that created unnecessary barriers for students (Matthews, 2010; Reimer, 2010; Rose, 2002). Further, the *label* of a disability or impairment did not encompass the variation and continuum from which a disability manifested itself in a learning context. For instructional designers or faculty members unaware of the complexities, there was a risk of perceiving "individuals with the same impairment [category] as having the same learning needs," (Matthews, 2009, p. 231). Individual learning plans were an avenue to address unique learning needs that shifted the 'issue of disability' from the individual to the environment where it became a cultural and environmental responsibility (MacLean, 2011; Matthews, 2010; Reimer, 2010). Unfortunately, this practice had not been common in the postsecondary sector.

Disclosure of disability or impairment.

The provision of support services, accommodations or assistive devices were shown to support learner diversity and student success for some types of disabilities; however, this was only pertinent to those that identified themselves as having a disability (Kim-Rupnow, Dowrick & Burke, 2011; Kinash, Crichton & Kim-Rupnow, 2004; MacKean, 2011; Moisey, 2004; Richardson, 2009). Unlike primary and secondary school where administrators were responsible for addressing the needs of the student, the onus for seeking disability supports and accommodation was placed upon the students with disabilities in postsecondary education. This was an inequity not experienced by nondisabled students in higher learning (Rose, 2006).

Interestingly, many students chose not to disclose the status of their disability due to fear of discrimination, stigmatization, embarrassment, prior experiences and perceived public or personal stigma associated with seeking help (Eisenberg, Downs, Golberstein & Zivin, 2009; Matthew, 2009). Other students indicated that formal supports or accommodations were not necessary due to external supports, self-perseverance, or metacognitive skills at higher levels of learning had already been established. In some cases, non-reporting resulted in poorer academic outcomes (Grabinger, 2010; Kim-Rupnow, Dowrick & Burke, 2001; Moisey, 2004; Schelley, Davies & Spooner, 2011; Richardson, 2009).

Postsecondary Education and Inclusiveness

Inclusive education and pedagogy was a concept that was widely practiced in the K-12 sector; however, inclusive education with adult learners lagged behind.

In consideration of existing research on students with disabilities, there was a need to expand our understanding of the barriers they encountered to improve employment and economic outcomes through flexible and inclusive learning environments (Galarneau & Radulescu, 2009).

Student outcomes.

The decision to declare a disability was shown to produce differences in student outcomes. When studying the type of academic credential obtained by students with disabilities, students with medical conditions, multiple disabilities, dyslexia and other specific learning disabilities, deafness or were hard-of-hearing had poorer degree attainment when compared to their nondisabled peers (Richardson, 2009). Students with milder disabilities were less likely to seek accommodation or support, at the expense of developing more effective organizational and study skills. These students also held the perception that the quality of "assessments were not as appropriate when compared to nondisabled students", impacting the quality of degree that might be obtained (Richardson, 2009, p 98).

Study approaches were also shown to impact students' perceptions of course quality. Jelfs & Richardson (2010) reported that surface approaches for studying (i.e. memorization of content) and lower scores for organization were more prevalent with students with learning disabilities, mental health difficulties or fatigue. Students with dyslexia or other specific learning disabilities were the most likely to rate course quality lower, especially when supports were not available.

Statistics Canada (2009) reported that 20.6% of the students with disabilities indicated that "they required an assistive device" to adequately support their learning. The most frequently cited need for assistance was tutoring, note taking, modifications or adaptations to curriculum. The study indicated that the type and level of support impacted their decisions on the length of time to invest in their studies, whether or not to complete their programs, and ultimately their career choices. There was a lack of research about the types of services that were needed the most in a distance learning environment at the postsecondary level (Kim-Rupnow, Dowrick, & Burke, 2001; Brown, 2008).

Disabling Aspects of Online Learning

The terms *access* or *accessibility* in distance education discourse did not translate to "barrier-free" learning environments in terms of website accessibility or curricular accessibility. Schmetzke (2001) suggested that the inability to meet accessibility standards reflected a lack of awareness about accessibility standards, competing administrative and technical tasks, and a lack of awareness of disability related issues by those who designed web-based courses.

Website accessibility.

Efforts to design digitally inclusive Web-based learning environments were promoted through legislation and the efforts of the W3C global consortium. The Web Content Accessibility Guidelines and Techniques (WCAG) were developed to support the concept of universal access for individuals with disabilities, however implementation had mixed results. For example, Schmetzke (2001) investigated the degree of accessibility with 219 distance-learning programs,

which revealed that only 15.1% of the homepages and 23.3% of the associated pages were barrier-free. Further, only one of twelve leading distance education organizations met the standards for barrier-free access.

Compliance with accessibility standards was a systemic issue complicated by lack of technological skills and knowledge to accommodate the variation in diverse learners. Cost, time, limited resources and lack of institutional goals on accessibility contributed to noncompliance (Barnard-Brak, Paton & Sulak, 2012, Guptil, 2011; Kinash, Crichton, Kim-Rupnow, 2004; Seok, 2007; Seak-Zoon & Hyo-Heong, 2005). These issues were further complicated by reactive approaches to design code where "accessibility was a posteriori concern remedied by developing add-ons or adapting the original implementation of a product or service to accommodate new requirements," (Stephanidis & Akoumianakis, 2005, p 240). These types of solutions lead to shortfalls for the end user with an impairment. Proactive approaches that planned for accessibility through universal access designs were more effective when emphasized at the front end of design and development. Proactive approaches not only created more accessible products or services, but also were more cost effective (Stephanidis & Akoumianakis, 2005; Burgstahler, 2009). As technologies advanced and mobile devices became more prevalent in distance education, web-based accessibility became more complex. The Web Accessibility Initiative expanded accessibility guidelines to address barriers associated with mobile use. As efforts to remain current with educational technologies remained a priority in distance education, this was of significance to DE researchers (Yesilada, Chuter, & Lawton, 2013). For example, mobile

learning was recognized as a means to expand educational boundaries to learners in remote locations. Recognizing the need to address issues associated with inclusive mobile learning, universal instructional design principles and practices were emerging as means to inform distance education instructional designers (Elias, 2011).

Curricular accessibility.

Although web-based accessibility was one area impacting students with diverse learning styles, curricular accessibility was another area. The design and content format could be obstacles to learning and ultimately affected persistence in distance education. Faculty who developed and taught online courses required knowledge and skills associated with the selection and integration of digital content in multiple formats (Seak-Zoon & Hyo-Jeong, 2005). Learning management systems enabled faculty to develop their own courses, but limited knowledge of accessibility guidelines and standards created barriers for some learners. For example, PDF files, PowerPoint files or mashups (i.e. remixed learning objects) contained options for integrating multi media such as graphics and video; however, some students with assistive technologies did not have software available on their computers that rendered the content readable (Edmonds, 2004). Distance educators were challenged to find instructional frameworks to address this type of diversity while improving educational outcomes for students with disabilities.

Course platforms - features & formats.

To describe the variability of learning needs in an online environment, Grabinger (2010) described common barriers experienced by individuals with different impairment types. The list was not intended to be exhaustive as a wide continuum existed in any type of disability, and more so when comorbidity was present. Further, the types of supports and prior experiences individuals had in the school system were found to have some bearing on successes or barriers experienced in an online environment (Burgstahler, 2002; Grabinger, 2010; Rose, 2002). Table 3 reflected some of the barriers associated with the course platforms. In consideration of some of the online barriers, faculty and instructional designers were overwhelmed with the task of creating barrier-free learning environments where learning needs competed with current delivery models in distance learning and instructional strategies.

Table 3. *Online Barriers Associated with Impairment Types*

Dyslexia and other learning disabilities	Challenges were experienced with written text or print-related learning problems (reading, text production, processing and comprehension) and multiple online resources (Burgstahler, 2002; Klemes, et. al., 2006; Richardson, 2009, Rose, 2002). Online environments with a predominantly text based focus "inhibited speed and fluency, intensifying difficulties" (Klemes, et. al). "Web pages divided into frames or segments confused software programs that translated text to voice" (Cook & Gladhart, 2002). Discussion forums, chats, wikis, and journals quickly became overwhelming (Cook & Gladhart, 2002). Screen readers and audio books were found to be common solutions (Burgstahler, 2009; Cook & Gladhart, 2002).
Speech	Challenges were experienced with synchronous technologies where a higher degree of participation was an expectation. Learners were self conscious and less motivated to participate; clarity of voice was challenging for peers to understand, possibly impacting social interactions. Response time was a challenge for effective dialogue, and learner had more difficulty keeping up. (Burgstahler, 2009)
Motor	Lists of hyperlinks crowded together were confusing (Cook & Gladhart, 2002); technologies were challenging for someone with limited fine motor skills, assistive technologies were required but this interfered with time responses on assessments. Alternative keyboards, speech input devices were common solutions to address some of these issues (Burgstahler, 2002).
Visual	Unlabeled graphics, maps, charts, tables limited understanding or could not be interpreted by screen readers, hence alternate text was required (Burgstahler, 2002, Cook & Gladhart; Edmonds, 2004). Only small portions of a screen were visible; cluttered or different formats between web pages were challenging (Burgstahler, 2009). Electronic text with screen enlargers, Braille printouts, and audio were common solutions (Burgstahler, 2002). "Web pages divided into frames or segments confused software programs that translate text to voice" (Cook & Gladhart, 2002). Lists of hyperlinks crowded together were confusing (Cook & Gladhart, 2002). Video without captioning limited understanding. Captioned videos assisted users whose primary language was different (Edmonds, 2004, p 52). Collaborative software programs with whiteboard functionality and chat features were inaccessible to users, therefore confusing the learner.
Cognitive e.g. (anxiety disorders; mood disorders; brain injuries)	Lists of hyperlinks crowded together were confusing (Cook & Gladhart, 2002); crowded web pages, excessive and lengthy text caused cognitive overload and anxiety (Grabinger, 2010; Rose, 2002)

Universal Design for Learning

Universal design for learning was one framework for examining how inclusive andragogy in an online learning environment might be possible. Drawing upon other disciplines that supported components of inclusive andragogy, the principles for universal design for learning (UDL) provided an evidence-based framework that was grounded in research on learning styles and learner differences in the cognitive neurosciences (CAST, 2013; Hitchcock, 2001; Hitchcock & Stahl, 2003; Meyer & Rose, 2002). Research suggested that differences in specialized functions of the learning brain that involved recognition, strategic and affective networks were associated with learners' sensory, cognitive, affective, motor and linguistic abilities, and thus, accounted for diverse learning styles (CAST, 2012; Meyer & Rose, 2002). Understanding how these networks functioned in context of learning enabled faculty to more fully understand learner strengths and challenges (Meyer & Rose, 2002).

The UDL framework drew upon the concepts of universal design in architecture where spaces and buildings were designed for everyone, rather than retrofitted to accommodate disabilities. Constructing the learning environment to simulate this concept, required researchers and instructors to understand how to apply what was known about the networks in the brain, and translate this knowledge into instructional strategies that promoted curricular and environmental accessibility. By attending to these factors, there was greater probability of all students being able to access content and demonstrate their knowledge in a manner

that was motivating and relevant to their cognitive abilities and preferred learning styles (Rose & Meyer, 2002; Rose, 2006).

Guiding principles of UDL.

Universal design for learning was a process that informed *inclusive* curricular development and implementation when the following three principles and associated guidelines were addressed (CAST 2012; Council for Exceptional Children, 2005; Rose & Meyer, 2002; Rose, 2006). Inclusive practices were enhanced when the learning environment included multiple means for:

1. representing information in order to support recognition learning,
2. enhancing options for learner expression and practice to support strategic learning, and
3. engaging student interest and enhancing motivation to support affective learning.

Nine guidelines were established beneath the umbrella of these three principles (as shown in Figure 1), which were developed to guide inclusive teaching practices and processes in "areas where learners [with disabilities were] likely to vary" (Chita- Tegmark, Gravel, Serpa, Domings, Rose, 2012, p. 17). The scope of the framework's utility was also found to address cultural variability of students where differences in learning were present in "perception, understanding, expression and engagement' (Chita-Tegmark, et al, 2012, p. 18). Rose (2002; 2006) suggested that inclusive learning environments and accessible curricula were achievable and most successful when the principles and guidelines were addressed and embedded early in the design process, and when institutional supports existed.

Universal instructional design.

Universal instructional design (UID) was another component within the scope of universal design, which was closely aligned with UDL in the online environment. Providing instructional designers with a framework for increasing accessibility, the overarching principles included designs that embedded features for:

- flexible use,
- simple and intuitive use,
- technical and physical support,
- perceptible information,
- tolerance for error,
- low physical effort,
- size and space for approach,
- community of learners, and
- an instructional climate (Elias, 2010; McGuire, Scott & Shaw, 2004; Roberts, Park, Brown & Cook 2011; Schmetzke, 2001).

UID literature had a propensity to focus on technology and tools rather than on how individuals learned (Elias, 2011). As such, there was a greater risk of resorting to linear models of instructional design, as well as faculty who used preferred learning theories and methodologies into which the student had to fit, as represented in cognitive-behaviourist models (Anderson & Dron, 2011). This was more prevalent where courses had already been developed and where it was perceived that the associated costs of enhancing accessibility outweighed the

return on investments (Boschman, 2011; McKeown, Banerjee, Madaus & Gelbar, 2012; Rose, 2002; Baughster, 2008). The UID and UDL frameworks were more conducive to social constructivist models in an online environment.

Hockings, Brett & Terentjevs (2010) argued that utilizing open education resources was one means to enhancing inclusive and accessible learning in the online environment, which provided a step toward cost effective solutions. However, the use and integration of open educational resources was not without its issues as these resources were assumed to comply with accessibility standards. For example, faculty who integrated e-texts into their curriculum assumed that publishers complied with accessibility standards. This was not always the case as reported by Cheng (2006) who conducted a study on accessible e-books for individuals with print disabilities. Findings indicated that students experienced several barriers to learning as a result of incomplete chapters, content that was out of order, and inaccessible formats where multimedia were embedded. Issues of timeliness were also experienced where accommodations were required. By the time students had access to their e-texts, up to four weeks had passed.

UDL implementation and attitudes.

Universal design for learning was a framework that was used primarily in the K-12 sector, although over the past five years gained more prominence in postsecondary institutions (Rose, 2006). As technology played an increasingly greater role in postsecondary institutions for teaching and learning, inclusive andragogy required faculty and instructional designers to reflect on their instructional assumptions that informed their practices with diverse learners.

Florian & Black-Hawkins (2011) suggested that UDL and inclusive [andragogy] had not been dominant factors in postsecondary education, so therefore,

> required a shift in teaching and learning from an approach that [worked] for *most* students existing along something 'additional' or 'different' for those who experienced difficulties, towards one that involved the development of a rich learning community characterized by learning opportunities that were sufficiently made for *everyone*, so all learners were able to participate. (p. 815)

UDL awareness and training.

Researchers that had directly applied the principles of UDL in postsecondary education suggested disability awareness and training in inclusive andragogy and practices were central to enhancing curricular accessibility, learner success, and attitudes towards diverse learners (Black, 2012; Florian & Black-Hawkins, 2011; Hockings, Brett & Terenjevs, 2012, Matthews, 2009). For example, Lombardi & Murray (2010) conducted a study to measure faculty attitudes and perceptions toward students with disabilities, as well as their willingness to adopt universal design principles to increase accessibility in their courses. Their findings suggested that faculty who had prior knowledge and training about UDL and legal responsibilities associated with accessibility were more likely to adopt UDL practices. Further, faculties of education, women and non-tenured faculty were shown to be more likely to adopt the principles. However, issues related to "performance expectations, time commitment, resources, accessibility of course materials, fairness in providing accommodations and course adjustments" were variables that impacted their perceptions about ease of implementation or the actual practices involved.

Reimer (2010) found similar results in a mixed methods case study where teachers found *the idea* of UDL positive where guidelines were accessible and provided an "educational blueprint" for development and implementation of curricula. There was a perception that the workload associated with implementation of UDL principles was excessive when trying to address the variability of learner needs. There was recognition that some course content formats would be accessible to some, but not others (Reimer, 2010; Matthews, 2009). Further, preferred teaching practices took precedence over teaching strategies that focused on learner-centred practices when UDL training and support were not provided (Aronin, 2012; Matthews, 2009). However, students who took classes that modeled UDL principles and practices, had a greater likelihood of transferring this learning to their work environments and implementing inclusive practices (Aronin, 2012). This point was significant for students represented in this study who were expected to apply inclusive strategies in their own practice.

As many of the studies related to UDL implementation were positioned in the K-12 sector, there were complicating factors related to student behaviour that were not necessarily present in the postsecondary sector. There was little research about the issue of workload and UDL implementation at the postsecondary level and how this affected faculty attitudes toward inclusive andragogy.

Benefits of UDL.

Researchers that adopted UDL in postsecondary education suggested students with disabilities performed better in online courses where the capacity to utilize multi-media rich course formats was available. This included

"interchangeable use of text, audio, video, pictures, graphics and animation," (Stewart, Choi & Mallery, 2010, p 35). Having choice and different instructional styles for content presentation and assessment were viewed as factors that enhanced student outcomes (Rose & Meyer, 2002; Rose, 2006). For example, utilizing video and text in an online environment captured classroom lectures that typically placed high demands on memory and attention. The online learning environment allowed for multiple representations of information to counter for these effects on students. Students with cognitive and linguistic challenges were able to review materials in a manner that attended to their cognitive style of learning (Rose, 2006).

Distance Education and UDL

Despite the success of the increasing inclusiveness in the K-12 sector while utilizing the UDL framework, the paucity of research in the postsecondary, and more specifically in distance education, lacked clarity about the viability of the framework as a means to enhance inclusive andragogy. When conducting this review, primary and secondary searches were conducted using three primary databases (ERIC, ProQuest Education, and EbscoHost). Selection criteria were based upon scholarly and peer reviewed journals in the areas of Distance Education, Educational Psychology, and Special Education. Key words limiting the search included variations of the following: distance education, distance learning inclusive pedagogy, accessible pedagogy, accessible curriculum, universal design for learning, universal design for instruction and universal instructional design.

The primary searches in *Distance Education, International Review of Research in Open and Distance Learning, Journal of Research in Learning Technology, American Journal of Distance Education* and *Research in Technology* revealed scattered studies which pertained more to disability issues and accessibility, rather than inclusive andragogy and UDL. A secondary search was conducted exploring other disciplines utilizing online learning, e-learning or distance education as an area of focus. The search included *Computers and Education; International Journal of Disability, Development and Education; International Journal of Inclusive Education, Journal of Postsecondary Education and Disability; Journal of Research in Special Educational Needs; Journal of Special Education and Technology,* and *the Journal of Technology and Teacher Education.* This resulted in more favorable results as it pertains to this study.

The comprehensive search revealed that much of the literature on disability, universal design and inclusive andragogy [or "pedagogy'' as typically used] reflected descriptive or didactic articles in the form of instructional guides, or grey literature from universities and provincial bodies. Research on UDL in distance education was scant, and studies were more likely to be found in traditional postsecondary settings where blended learning or technology enhanced classes were offered. Kinash, Crichton & Kim-Rupnow (2004) suggested much of the literature was generated from "conferences and journals within the field of disability studies, rather than mainstream education" (p. 7). Further the focus of the research was directed on website accessibility. Reference to disability and online learning tended to be painted with broad strokes and little detail was

presented as it pertained to diverse learning needs. These studies often projected an institutional perspective where the investment in learning management systems was viewed as the tool of choice (Burgstahler, 2009; Kinash, Crichton & Kim-Rupnow, 2004; West 2011).

Narrowing the scope.

In order to narrow the scope, this review restricted contents to peer reviewed journals, relevant qualitative or quantitative studies and the published works by Rose & Meyer (2002) and the Council for Exceptional Children (2005). A large body of evidence-based research located at the Centre for Assistive Technologies (CAST) was previewed but was eliminated from this review due to the focus on technology-enhanced classrooms and the K-12 sector. Ashman (2012) reinforced these findings, indicating that there was little in the way of validated or empirical research as it pertains to inclusion, UDL and student outcomes in distance education.

A meta-analysis on the literature conducted by Roberts, Park, Brown, & Cook (2011) revealed that studies conducted on UDL and postsecondary education from 2000 to present represented 1 quantitative study using an experimental design, 6 qualitative studies and 1 mixed methods design. In addition to the studies identified by Roberts, et al (2011), this review found several dissertations addressing UDL and online learning within the past couple of years (see Table 4).

Table 4. *UDL and Online Learning - Dissertations*

Researcher(s)	Type of Study	Purpose and Findings
Bongey (2012)	Quantitative	Examined the effectiveness of UDL resources in a LMS and faculty's ability to sustain the practices over time. Results indicated that design and compliance with UDL guidelines were possible in a LMS increasing instructor self-efficacy. Student engagement did not improve as a result of the UDL intervention in the LMS course.
Coomber, S. (2006)	Qualitative (Ethnography)	Examined the impact of UDL and disability support services from the perspectives of students and faculty; and the implications for institutions to comply with human rights legislation and institutional policy. Findings suggested that UDL improved access to learning but barriers still existed. Communication, relationships and clear course requirements were central to creating an inclusive learning environment. Lack of flexibility or knowledge in teaching approaches, competitive learning environment, lack of professional development on UDL, difficulty integrating technology, lack of technical support, and lack of familiarity with access policy were common themes that emerged.
Guptill (2012)	Mixed Methods (Delphi Method & Likert survey)	Examined how a conceptual instructional design model incorporating UDL principles addressed learner variability and accessibility standards. A revised model for evaluating web accessibility, multimedia and the effectiveness of learning object integration was achieved using the bottom up approach.
Hicks (2010)	Quantitative	Examined the effect of UDL on strategic learning in an online environment that supported a customizable, media based framework. Findings suggested that there were no significant differences in strategic learning abilities with the UDL intervention. However, a significant difference was found between genders in processing skills, self-testing and study skills. Participants were the least skilled in collaboration.

Commonalities in the literature.

Studies that crosscut distance education and UDL revealed common themes associated with student and faculty perceptions of UDL, components of UDL applied to technological features and affordances (i.e. synchronous and asynchronous communication), pre-service training and professional development,

and web-accessibility. Communication was a common theme in many studies, which suggested asynchronous and synchronous means of communication enhanced the cognitive and social needs of diverse learners (Rose, 2006; Guptill, 2011; McKeown, Banerjee, Madaus, & Gelbar, 2012; Roberts, O'Sullivan & Howard, 2005).

In a meta-analysis regarding the effectiveness of accommodation to students with learning disabilities, limited empirical research existed that supported or rejected the amount of accommodation that enhanced student outcomes (Gregg, 2012). Further, little evidence-based research existed to determine the effectiveness of UDL as it pertained to student outcomes, or the effectiveness of existing and emerging technologies that aligned with the implementation of UDL principles. Although technology was not essential to UDL design or implementation in many of the studies, it was the main link between the disciplines and the studies cited in the review (Rose, 2006). For this study, technology was obviously an essential component for understanding the nature of inclusiveness.

Many of the studies that specifically focused on adult education and UDL were situated in traditional institutions that used a learning management system as the medium for delivery. For example, Schelly, Davies & Spooner (2011) conducted a study using an experimental research design, which explored students' perceptions of faculty's implementation of UDL, and its "effects on student learning, performance, persistence and retention" (p. 17). This study was based loosely upon a replication study conducted by Yuval, Procter, Korabik &

Palmer (2004). A focus group was utilized to generate ideas about how to train instructors to embed UDL principles into a gateway psychology course, using a pre and post survey based upon the principles of UDL. The survey was piloted with a sample of 1170 students enrolled in five psychology courses that culminated in a 62% response rate. Instructor training occurred between administration of the pre-survey and post-survey. Results indicated that of those who responded, 8% of the subjects self reported a disability, but only 20-22% of those students sought out accommodation to support their learning in both the pre and post survey.

When the intervention of instructor training on UDL had occurred, students indicated that there was an increase in the availability of content, readings and assessments in multiple formats, making it more accessible to everyone. Further, video used as a medium for feedback or as a supplementary resource to summarize key points also increased accessibility as a result of the training. Results suggested that instructor behaviour changed after the intervention of UDL training was provided, increasing the accessibility within the course. Students' perceptions of their instructors' ability to enhance curricular accessibility were positively received. One of the limitations of the study was that no control group was used; therefore, it could not be said exclusively that the changes in students' perceptions were a direct result of the intervention. A second limitation was that the study was used in a technology enhanced class; therefore, limiting the ability to generalize any finding to a distance education setting.

In a second study, Basham, Lowrey & deNoyell (2010) used a mixed methods design for a multisite case study to understand "how students used synchronous and asynchronous computer mediated communication (CMC) tools within a UDL framework. "The researchers wanted to know what effect a UDL bi-university collaborative project had on student/instructor ratings," (p. 33). Drawing upon the research, the concept of social presence in an online learning environment was examined exploring the ability of CMC tools to support higher order thinking, generate knowledge through multiple perspectives, and translate this knowledge into practice that incorporated the values associated with UDL principles. Participants were sampled with purposive sampling of students from two universities that collaborated on a project using chats and discussion boards within a learning management system. The assignment was structured at the beginning of the course, so that the UDL principles would be embedded upfront as a means to enhance inclusiveness. Data was collected from the chats and discussion forums and transcripts were analyzed.

The results suggested that both tools enabled students to move from basic knowledge to higher order thinking. The researchers suggested that students had multiple ways to express and engage with the content while building knowledge through multiple perspectives as a result of using the chat and discussion forums. As no control mechanism was put in place for the quantitative portion of the study, a direct causal link could not be attributed to the UDL intervention strategies. Although the study was informative, the intention to measure the effectiveness of UDL for learning seemed somewhat incoherent when incorporating the

quantitative aspects. It would have been more effective to enhance the depth and meaning of the study with qualitative data through a focus group and open-ended questions.

Summary

Inclusive andragogy was found to be obscure in distance education literature despite the body of literature in other disciplines. Many studies focused on the label of the disability to define characteristics that relate to course persistence, retention or attrition, rather than the continuum that exists for cognitive learning styles and learner diversity. Rather than experiencing a universally designed learning environment that is accessible to everyone, students were charged with obtaining the necessary supports and accommodations to fit the educational context.

The literature revealed that there was a lack of knowledge and awareness about disabling factors that created barriers for students who studied at a distance. Despite legislation on accessibility and efforts on behalf of the W3C Global Consortium that devised standards to enhance universal access, shifts in institutional philosophies and policies were viewed as critical components necessary for cultural change in environments where employees designed, developed and implemented accessible web-based courses, accessible curricula and offered associated services.

In order to address the gap in distance education literature, the phenomenon of inclusive andragogy in an online environment utilizing UDL principles and practices required further investigation and was the intent of this

study. Specifically, the essence of the phenomenon from the perspective of students, faculty and support staff provided a holistic examination, which appeared to be absent from the known body of literature. As the delivery of distance education required a systemic approach in postsecondary education, representing multiple voices to result in a richer and more meaningful understanding of inclusive andragogy in distance education was required. The following chapter provides the methodology I used to explore inclusive andragogy in distance education, while attending to the gaps that existed in the research.

Chapter III - METHODOLOGY

From an interpretative stance, multiple perspectives contribute to a greater understanding of the phenomenon in relation to the context, social relationships and interactions. Hence, implementing a phenomenological study by utilizing student interviews and focus groups for faculty and support staff provided a richer and more meaningful understanding of inclusive andragogy in distance education through reflective interpretations of the experiences (Creswell, 2007; Padgett, 2008).

Philosophical Assumptions

The philosophical assumption underpinning this study was situated in the ontology of phenomenology, a philosophical worldview concerned with the nature of reality and how it was experienced through consciousness. "Phenomenology [was] well-suited to holistic questions of meaning that [emerged] from experience" and was concerned with "understanding social and psychological phenomena from the perspectives of the people involved" (LeVasseur, 2003; Padgett, 2008). In particular, phenomena that were not well understood and that were central to the lived experience of human beings were appropriate for phenomenological research," (Carpenter, 1995, as cited in LeVasseur, p 409). Hence, phenomenology was deemed to be a suitable approach for understanding the deeper meaning of inclusive andragogy in distance education from those directly involved with its practice. There was a distinction between the main ontologies of phenomenology originated through the philosophies of Husserl and Heidegger. Hence, the

following provided an interpretation of these philosophies and how they informed the methodology used for this study.

Transcendental phenomenology.

Differentiating from a positivist orientation to natural inquiry, Husserl claimed that the objective and subjective understanding of any object could not be separated from consciousness as "all consciousness [was] consciousness-of-something" (van Manen, 1990). Husserl posited that through the process of epoche (or bracketing), psychological reduction and transcendental reduction, the "actions of consciousness and an intentional grasping of the ultimate essences of the unique experiences" could be described (Laverty, 2003). Intentionality was concerned with the processes within our consciousness that related to "all our thinking, feelings, and acting about things in the world," while directed towards that object and forming the structure of an experience (van Manen, 2012). As a starting point, epoche was a means by which researchers engaged in a "mental purge" regarding their self-perceptions about a phenomenon to reduce the encumbrance of prior assumptions, allowing for a fresh look at the phenomena. The act of bracketing was necessary so that the "consciousness necessary for the apprehension of pure phenomenal experience [would be] devoid of assumptions about personal history or location in space or time", (LeVasseur, 2003, p. 413). As a more scientific application of phenomenology, the structured processes involved in psychological and transcendental reduction illuminated a 'pure' description of the lived experience. Although achieving 'purity' was deemed to be challenging, phenomenology from a practical sense, was concerned with

describing *what* was experienced and *how* it was experienced in formulating a collective understanding (Creswell, 2007).

Hermeneutic phenomenology.

Heidegger (1962), a student of Husserl's, aligned with Husserl's contention that mind and body were integral to understanding the world. However, instead of our understanding being informed by meaning directed towards objects, Heidegger argued that the historical, social and cultural components were integral to our interpretations of human existence, and "that the essence [of any phenomenon was] not separable from existence" (LeVasseur, 2003, p. 415). The essence of what it was to be human involved *being in* and *of the world*. As social beings, "we [were] always already "thrown" into the world, and all thinking, even the most general and reflective, [were] embedded within projects and interests that constitute practical worldly involvement" (LeVasseur, 2003, p 415). Further, "a person [could not] reflect on lived experience while living through the experience; [therefore], reflection on lived experience was always recollective" (Van Manen, 1990, as cited in Patton, 2002, p 104). The mental representations of inclusiveness for participants in this study and myself formed a backdrop for how each of us related to inclusiveness in the online environment and how it influenced our relationship and interpretations of the phenomena (Gallagher, 2010).

The epistemology of hermeneutic phenomenology was explicated from meaning embedded in text and by my "active engagement and reflective practice of understanding" through intrinsic, contextual and relational means that resulted in formative knowledge (van Manen, 2007, p.13). As such, my prejudices,

presuppositions and biases were not tethered to the process of Husserl's concept of epoche, but revealed in the interpretation and narrative of data, which drew upon the intersections between language and "the constant discourse between researcher and participant or between reader and text" (Tan, 2009, p. 4)

This distinction was pivotal in terms of the phenomenon under inquiry and my orientation towards Heidegger's philosophy. Despite my use of reflexivity for more ethical reasons as described in Chapter I, I could not reconcile the meaning of inclusiveness being void of social, historical and cultural interpretations that inherently infused my interpretations of student and stakeholder responses. Further, I supported the contentions of hermeneutic phenomenology that suggested that language was a means for understanding and deepening our multiple interpretations of human thought, where the focus of any phenomenon was our interpretation of the meaning rather than a description of the essential structures directed towards a phenomenon (Regan, 2012). Gadamer (2004) posited that "understanding *was* interpretation and vice versa…[and that] language [acted] as the medium for understanding and a means of sharing the complexities of human experience" (Regan, 2012, p 286). According to Gadamer (1986), "interpretation [of lived experience] was *pointing out the meaning of something,"* rather than a description representing the essence of a lived experience (van Manen, 1990, p 34)

For example, d*isability* as a construct has historically been perceived through the lens of the medical model of disability, shaping the landscape of values, language and practices associated with remediation towards individuals who have a disability label. Although these beliefs and practices have their place

in the health domains, a dichotomy exists in other spheres of living. My lived experiences interpreted through text and day-to-day experiences revealed a somber reality that individuals with impairments were often *disabled by their interactions with the environment and social relationships*, resulting in discriminatory and exclusionary policies and practices (Kittay & Carlson, 2010; Peters, 2010; Reid-Cunningham, 2009). I did not assume this was necessarily deliberate, but a consequence of socio-political and historical values that were firmly embedded in the cultures that we live and our actions that perpetuated those barriers.

Experiential phenomenology.

The continuum that stretches between transcendental and hermeneutic phenomenology, revealed an intermediate position, which transitioned from the philosophy of phenomenology to the disciplines of phenomenology. Educators, such as van Manen had predilections towards hermeneutic phenomenology, but recognized the practical implications of phenomenological inquiry in one's discipline. "The meaning of pedagogy needs to be found in the experience of pedagogy, because the lived experience of pedagogy [was] all that remained if presuppositions [were] suspended," (van Manen, 1990, p 53). Thus, "it [was] impossible to study meaning without experiential grounding… [as these were the] prerequisites for everyday communication…so we [could] learn and understand by example," (Friesen, 2012, p. 121). Van Manen (1990) suggested experience or practice preceded theory, and that "phenomenological research [found] its point of departure in the *situation*, which for purpose of analysis, description and interpretation [functioned] as an exemplary nodal point of meanings that [were]

embedded in this situation" (van Manen, 1990, p 18). It was this philosophy in particular that influenced my decision to include various stakeholders. Their experiences were informed by different roles and responsibilities, which would ultimately influence their perceptions of inclusive andragogy in online learning.

Qualitative Research Strategy

The research strategy employed for this study utilized a phenomenological perspective to understand the lived experiences of students, faculty and support staff as they experienced inclusive andragogy in context of UDL principles in a distance education environment or online learning environment.

Sampling Design and Recruitment Strategy

The sampling design was based upon nonrandom purposive sampling, using a criterion sampling strategy. Pre-determined criteria included those listed in the delimitations in Chapter I, and which involved individuals who experienced the phenomenon from various vantage points as a student, faculty or support staff.

Participants were recruited through the institution's email database and sent an invitation to participate in the study by a research assistant who concealed the identity of the students from the researcher for ethical purposes. Institution-generated email accounts were previously assigned to the researcher and the participants prior to conducting the study, which increased the security and privacy of those involved. The email contained a letter stipulating the purpose of the study, addressing the ethical concerns related to participation, confidentiality and informed consent (see Appendix A and Appendix B). Participants were informed of the study including expectations of participation, expected time commitment,

and considerations related to the handling and storage of personal or confidential information. Participation was voluntary, with the right to refuse participation or withdraw at anytime without prejudice. For those that did participate, no one withdrew their consent to participate for the duration of the study.

Obtaining voluntary and informed consent from faculty and staff was conducted on paper with a signature indicating consent, and stored in the researcher's office in a locked cabinet. Obtaining consent from the students presented a couple of challenges due to the online exchange of information and the perception of conflict of interest due to the researcher's connection to the program. In situations where the authenticity of the participant's online consent cannot could be verified by the researcher, authenticating software has been used by other researchers (Kanuka and Anderson, 2007). For this study, voluntary and informed consent was sought by creating an editable PDF, on which students provided consent. A copy was attached in a return email to the research assistant through their institution-generated email account, which required authentication. For storage purposes, all communication conducted with stakeholders through email was stored in an electronic file stored in the researcher's personal employee file, and stored on the institution's server in accordance with the *Records Management and Retention Policy.*

Data Collection Procedures

Upon receipt of informed and voluntary consent, I collected primary data by online interviews with students, while secondary data was obtained from stakeholders by means of individual interviews and a focus group strategy.

Technology to assist in data collection and analysis included an audio recorder, email, Transcribe software, Microsoft Word and Dedoose Qualitative Research software. Field notes were taken during the interviews, unless I deemed it to interfere with the data collection process. For example, if my note taking distracted or made participants uneasy, I elected to rely on the audio recordings and wrote reflections and observations after the interviews. I transcribed all data upon completion of all focus groups, and after receipt of all interview responses. All data transferred to electronic formats were password protected through encryption software. Throughout my research, I engaged in memoing to provide an ongoing record of my reflections and interpretations, particularly during phenomenological reduction due to the volume of raw data and a need to recall my interpretations over an extended period of time (Young & Florian, 2013).

Student interviews.

Semi-structured interview questions were developed for student interviews (see Appendix D). In the spirit of providing multiple options for action and engagement with the study, students were provided with an option of interviewing in-person or over the phone with a research assistant, or responding anonymously through an online survey/interview using Fluid Surveys. In all cases, respondents elected to use the online survey/interview. The students' identities were concealed and coded by the research assistant for purposes of maintaining their confidentiality and privacy from myself (Kanuka & Anderson, 2007). Students were sent a link to the survey and entered the code assigned them by the research

assistant so I would be able to distinguish between their responses when conducting my analysis and during the interpretation of the findings.

Stakeholder interviews.

Semi-structured questions were used to gather data from the stakeholders (see Appendix C). The questions were provided in advance via email to selected participants to enable them to reflect on their experiences prior to voluntarily participating in a one-to-one interview or mini-focus group. All responses were recorded on an audio recording device for purposes of analysis and interpretation at a later date. I took field notes during all interviews when I felt it did not interfere with the interview or flow of the conversation. The research assistant facilitated one of the mini focus groups consisting of 3 faculty and the academic learning technology specialist while I took notes. In this instance, the relationship with the participants was the closest working relationship and had the most participants. I transcribed all data, removing any identifying information to protect the privacy and confidentiality of each member. Each member was assigned a pseudonym for purposes of distinguishing between participants during analysis and interpretation. The transcripts were returned to the participants prior to analysis for review of their accuracy. Any statements that the participants did not want to have included in the data were removed from the transcript, otherwise the remaining content was considered to be acceptable to include in the analysis and written results.

Interview and focus group question development.

Initially, a priori codes were used to focus the interview and focus group questions based upon similar studies conducted on UDL by Aronin, 2008; Black, 2012; Brown, 2008; Francis, 2012; Poore-Pariseau, 2011; & Rao-Delgado, 2010 (see Appendix C and Appendix D). The benefits of this strategy enabled me to code more expediently where emergent themes aligned. Although these themes did not direct the study, they provided an entry point from which to start. Openness and flexibility were required to ensure the themes emerged as described by the participants (Teal, 2007).

Explicitation of the Data

The transcripts were analyzed for common themes, categories and patterns. The units of analysis were the student interviews, individual stakeholder interviews, and the collective group from both mini focus groups.

An audit trail of the analytical process was implemented to assist with recall and decision-making during data analysis. This included coding on transcripts, and the use of templates illustrating the changes in coding and development of themes (Teal, 2007). Template analysis was utilized to identify themes, patterns and relationships that emerged from the data (Teal, 2007; Creswell, 2007). Additionally, memoing was used throughout the analysis in order to reflect on my impressions and interpretations of each interview and the research process itself. Consideration was given to the intersection between participants' affect and my perceptions of how this related to their described

experiences. As memoing contributed to the explication of the data, Table 5 represented some of my reflections throughout the study.

Table 5. *Memoing*

Memo Context	Selected Field Notes and Memos
Vertical and Horizontal Review of Student Interviews	"There is a distinct thread of needing social interaction to clarify and confirm learning. A more structured learning environment is required for this student; it is interesting to note the expectations surrounding email responses from instructor…there is a need for immediacy." (Dec, 1, 2013) Students - "There is a focus on outcomes after the program" Stakeholders tend to focus on processes. (Dec 5, 2013). "The issue of language competency is strong and seems to be influencing student self-confidence, motivation and level of achievement. We need to address English as a second language in the design and implementation of the courses. It is bothersome that any student would find their learning a "painful experience" (Dec 30, 2013) "I find the use of an online survey limited. I'd like to be able to probe more on some of the questions to understand the circumstances. i.e. practicum and collaboration between faculty and the consultants. What went wrong and why?" (Jan 15, 2014)
Phenomenological methodology	"I'm in conflict about hermeneutics and transcendental phenomenology. I feel there is a middle ground between these two philosophies. It's plaguing me, as am going forth with my analysis. I firmly believe one cannot disengage from their own realities and perspectives that have been shaped by culture, etc. from the interpretation of these interviews. This will inherently be reflected in the final results" (Jan 18, 2014)
Vertical and Horizontal Review of Stakeholder Interviews	"I'm struck with XX's emotion and compassion when describing his feelings about inadvertently and potentially increasing student anxiety as a result of too much content. One's values have implications for professional competency and psychological well-being in creating accessible courses," (Nov 18, 2013). "There is a notable difference in how people share in focus groups vs. 1:1. People are much more open during individual interviews. There is a cautious tone with group interactions even when everyone knows each other well and have worked together for a long time. It's respectful, playful, collegial, yet guarded" How does this translate to how we collaborate with our own learning about online learning and accessibility? (Feb 4, 2014).

Establishing an open attitude.

The goal of this investigation was to explore inclusive andragogy from multiple perspectives and to understand its meaning in context of those who have experienced it. From a transcendental orientation, this required that the researcher engage in the internal process of epoche (Creswell, 2007; Hycner, 1985; Moustakas, 1994). Epoche or bracketing was a conscious process of setting aside one's values, prejudgments and determinations as much as possible "to allow whatever is before us in consciousness to disclose itself so that we may see with new eyes in a naïve and completely open manner" (Moustakas, 1994, p 86). Hermeneutic phenomenologists opposed the practice of bracketing, suggesting that a "natural attitude" was unattainable as subjectivity is "a condition of knowledge, [generated by the] presence of historicality of understanding," (Laverty, 2003, p 11). Having an implicit pre-reflective self-awareness of my *self* experiencing what inclusive andragogy in distance education was like, this study adopted an open attitude through reflexivity and "appropriation of [my] own fore-meanings and prejudices" throughout the study as it related to my inter-subjectivity to others and to the phenomenon (Gadamer, 1975, as cited in Friesen, 2012, p. 25). Further, my interpretations of the participants' lived experiences could have been premature without establishing my own pre-understanding through reflexivity (van Manen, 2002). This process was reflected throughout the research process to increase the trustworthiness of the study, while critically analyzing and eliciting the deeper meaning of the phenomenon as lived and understood by myself and the participants (Band-Winterstein, Doron, & Naim, 2014).

Phenomenological reduction.

Hermeneutic phenomenology is less concerned with prescribing a means or structured approach for analysis, challenging a novice researcher to capture the essential meaning of the phenomenon. Therefore, Hycner's (1985) guidelines were adopted for phenomenological reduction to help facilitate my learning and explication of data using a detailed and selective approach to capture the essential meaning (Hycner, 1985; van Manen, 1990). After reviewing each transcript individually and in whole, general units of meaning were delineated from sentences or paragraphs on the transcript. The meanings of units were reviewed to determine which statements were relevant to the research question and resulted in significant statements (Creswell, 2007; Hycner, 1985; Moustakas, 1994).

Significant statements were reduced to common themes and meanings to obtain an inter-subjective horizon "that [allowed] access to the experiences of others" by removing any statements that were irrelevant, overlapped or were redundant (Creswell, 2007; Friesen, 2012, p. 24). A research assistant provided an independent review of the transcripts to identify common themes that emerged from the text, corroborating the findings at this point in the analysis. Any differences in interpretation of the themes were largely due to differences in language use between the research assistant and myself. We resolved this issue by discussing our interpretations and the intent of the terminology selected for the theme and coming to agreement on the word choice that best reflected the themes. We had no disagreements about the essence of the themes that emerged otherwise.

Through an iterative process, clusters of meaning emerged, identifying central themes that encapsulate the essence of the clusters of meanings (Hycner, 1985). The clusters of meaning were reduced to 4 themes for the student group and 5 themes from the stakeholders' group. A descriptive account of the participants' experiences was captured through a textural and structural description delineating the essence of what was experienced, and how the inclusive andragogy was experienced (Creswell, 2007; Moustakas, 1994). Generating a thematic account across all cases, a second interpretation was conducted to reflect a deeper interpretation of the lived experiences revealed through the text as a means of "pointing out the meaning". This second analysis reflected the hermeneutic stance that the meaning of inclusive andragogy in distance education was co-constructed between the participants and myself.

Focus group and data analysis.

Phenomenological analysis of group data was more complex as a result of group dynamics and the broader socio-cultural factors that influenced individual experiences (Palmer, Larkin, de Visser & Fadden, 2010). Multiple perspectives from a systemic standpoint were viewed as an integral component in understanding the essence of inclusive andragogy in DE in the context of environmental and interactional factors that shaped shared meanings and informed practices. Therefore, my analysis included a two-part process based upon the research of Palmer, et al. (2010) that accounted for "group patterns and dynamics, and subsequently, for idiographic accounts" to develop a richer understanding of the phenomenon (p. 101).

The first phase of analysis examined group patterns and dynamics in relation to the research question through a seven-step process as shown in Table 6 (Palmer et al, 2010). Although an iterative process, a second analysis followed utilizing Hycner's (1999) guidelines as described in the previous section.

Table 6. *Seven-Step Process for Group Data Analysis - Phase 1*

1. Emergent themes/patterns	Identification of experiential claims and concerns, reduced to emergent themes related to the phenomenon
2. Positionality	Exploration of the function of statements in relation to perspectives and stance
3. Roles & relationships	An examination of the meaning and expectations ascribed to roles and relationships in relation to the phenomenon resulting consequences
4. Organizations & systems	An examination of the meaning and expectations of the phenomenon in relation to the system and consequences
5. Stories	Examination of stories shared and how this was supported or impeded by other group members
6. Language	Examination of language used from the unique perspectives of each stakeholder in terms of patterns, context and function.
7. Adaptation of emergent themes/patterns	Re-categorizing themes based upon finding in steps 2-6, exploring shared experiences and differences and how they influenced meaning making within context of the whole group.

Palmer et al. 2010, p 104

Phenomenological reflection was employed, synthesizing the perceived meaning of the participants' experiences "that opened up possibilities for creating formative relations between being and acting, self and other, interiorities and exteriorities, between how we are and how we act" as it pertained to inclusive andragogy in distance education (van Manen, 2007, p 12). The narrative presented

in Chapter IV represents the findings of the overarching and subordinate themes arising from the analysis, followed by a discussion of the findings as they link to the literature in Chapter V.

Validation Strategies

"Researchers must show how they have done justice to the complexity of their chosen topic by bringing into play the various, present and historical, inter-subjective understanding of it" (van Manen, 1990, as cited in Angen, 2000, p 383). The validation strategies informed by Angen (2000) and Creswell (2007), were incorporated into this study to enhance the authenticity and credibility of the findings. Validation criteria were based upon triangulation, external audits, thick descriptions, member checks, and ethical validation" (Creswell, 2007; Angen, 2000, p. 383).

Means of triangulation.

Interpretations derived from the participants' lived experiences and my own subjectivity were substantiated through triangulation of theoretical perspectives, rather than a documented account of our personal opinions (Angen, 2000; Neuman, 2006). Memoing and providing a personal description provided a means to integrate and acknowledge my inter-subjectivity throughout the study to distinguish between the experiences of the participants and my own subjective interpretations of the text. Furthermore, the intersection between my interpretations and the theoretical underpinning of the Community of Inquiry framework (Garrison, Anderson & Archer, 2010) popular in distance education discourse, the Universal Design for Learning framework, and adult learning

theories provided an explicit means in which to "confirm, extend or revise" their relevance in context of the findings in this study (Angen, 2000).

Triangulation was also accomplished by taking "multiple measures" through use of student interviews, stakeholder interviews and two mini focus groups to understand the essence of inclusive andragogy in distance education. From an interpretative stance, it was useful…to elicit divergent accounts of a phenomenon," however not necessarily to achieve an "univocal truth" (Angen, 2000, p 384). Examining the different vantage points provided a holistic account, comprised of rich thick descriptions from an individual perspective, but also from a systemic perspective in which the stakeholders shared their lived experiences within the context of their work.

Debate existed about the use of focus groups being appropriate data gathering methodology in phenomenological studies. From a Husserlian orientation "the essential characteristics or "essences" of phenomena… requires an individual to describe their experiences in a 'uncontaminated' way"; hence, group dynamics and interaction would interfere in grasping the 'natural attitude" of the experience from a personal perspective (Bradbury-Jones, Sambrook, & Irvine, 2009, p. 663). From a Heidegger orientation, "multiple comments, stories, and descriptions that converge in shared experience during the focus group allow the phenomenon to be confronted, as much as possible, on its own terms," (Bradbury, et al, 2009). Further, "phenomenological inquiries that [included] interviews and focus group discussions, [gained] from co-cultural experiences…as they were helpful in generating deeper understandings" from diverse perspectives (Orbe, M.,

1998, p. 41, Bradbury-Jones, Sambrook, & Irvine, 2009). Although I originally intended on having one focus group for faculty and staff, the blend of multiple interviews and two mini focus groups ultimately allowed for multiple points of triangulation to enhance the credibility of the study.

Validation of instrumentation.

The individual interview and focus group questions were reviewed with nonparticipating faculty members and the researcher's subcommittee to assess for clarity and alignment with the research questions and methodology. The protocol for analyzing the interview and focus group data are based upon the research of others, including Moustakas (1994), Palmer et al. (2010), Hycner (1999), and van Manen (1990 / 2002).

The Universal Design for Learning checklist and guidelines that were used as reference for this study were tested nationally for face validity across 20 postsecondary institutions in the United States where online learning ensued (Burgstahler, 2009).

Authenticity.

Member checking was embedded in the process so participants were able to verify the accuracy of the transcripts. This was followed by a confirmation that the textural and structural descriptions were authentic to their lived experience to ensure their voices were accurately portrayed and ethically represented. Any adjustments were made prior to the final writing and dissemination of this report (Creswell, 2007). I felt that participants should have the choice, control and dignity of being represented in an ethical manner as defined by each participant

due to the close relationship. Although there was a chance of participants changing or enhancing their original contributions, very few alterations and deletions were made that would have altered the interpretation of the data. Many of the participants were conscious of the discrepancies that existed between their intended thoughts and the statements recorded in the transcripts. This made me conscious of the final quotes that were selected for the final report, and my subjective influence in the research process to create an imbalance in power (Mero-Jaffe, 2011; Koelsch, 2013). Despite my decision to use member checks, others have debated their use as a means to establish validity in phenomenology research. Interpretation can change with context throughout the research process and interpretive research does not have to be proven or generalized (McConnell-Henry, Chapman, Francis, 2011)

Transferability.

Although the results were not generalized beyond the study's sample, the research had components of transferability such that the findings shared some common characteristics relevant to similar learning contexts (Creswell, 2009). The literature review (based upon peer reviewed and scholarly research) provided a point of comparison, which substantiated some of these findings (Creswell, 2007; Neuman, 2006).

Ethical validation.

Hermeneutic phenomenology "plays an ethical role in moving us beyond our present understanding of a given topic to some new, more generative understanding" (Gadamer, 1994, as cited in Angen, 2000, p 389). Inclusive

andragogy was not well articulated in the literature, and less so in distance education. From a pragmatic standpoint, the interpretations examined through the universal design for learning framework extended the research of Elias (2011), who examined universal design of instruction in distance education, but recognized the need to extend inquiry to address learning variability through UDL. This study broadened the parameters of the samples used in other studies, to include all stakeholders. From this stance, the interpretations were also grounded in the realities of day-to-day, which informed a greater understanding of inclusive andragogy in the context of how it was lived in the roles and responsibilities of all the participants. As a model that has little examination in Canada, there is plenty of opportunity to extend the discourse on UDL and inclusive andragogy in online learning environments through inquiry.

The next chapter presents the findings from the participants in the study based upon the methodology that I employed. They represent the essence of the horizons attributed to inclusive andragogy in distance education at the postsecondary level, plus a second interpretation of their meanings.

Chapter IV - THE LIVED EXPERIENCE

This chapter explores and presents the findings of the study based upon the interview questions asked of students and stakeholders. In orienting toward the phenomenon of inclusive andragogy in distance education, thematic analysis was used to present the findings that reflected the essence or essential meaning that emerged from the participant interviews. After determining the point of data saturation where further analysis of the data did not produce any more significant meanings or deviations of experience, the responses were analyzed for themes and prioritized. Each theme reflects shared occurrences of the phenomenon, followed by deviations in experiences and practices as a result of one's unique role where applicable. Quotes were embedded to remain as close as possible to the participants' experiences, preserving grammar and sentence structure as articulated or written by the participants. Finally, this chapter concludes with an interpretation of the meanings students and stakeholders ascribed to inclusive andragogy in distance education, supported by what is known in the field.

Situating the Students

Although the identities of the students were hidden from the researcher, the four participants were known to be either students who had taken the online credential and had graduated within a year of completing the program, or they were part of an affiliated program and had been eligible to take some of the courses prior to 2014 from this credential. In this instance, all participants identified as mature students with one between the ages of 25-29, and the

remaining within the 35-45-age range. For participants in the older age bracket, all were married with children, while the youngest was single with no children.

All students met the English proficiency requirements as stipulated by the institution; however, English was not the primary language for two students who had immigrated to Canada. At the time of taking the online program, all participants resided within the province, with two who acknowledged being in close proximal distance to the institution.

It was important to note that there had been a number of students with a disability (disclosed and non-disclosed) that consistently applied to the program in order to further their knowledge about disability studies in specific areas of specialty. For students that participated in this study, the following was expressed. One student indicated that the presence of a disability was not applicable, while the remaining three provided no indication. In describing whether there was willingness to self disclose learning needs to an instructor, one student claimed, “I am comfortable self reporting and feel it is necessary for my learning success”. Another student indicated that self-reporting learning challenges were not applicable, yet found the online learning experience to be “painful”. The remaining students did not provide an indication either way. While studying in the program, two participants indicated that no assistive devices were used during their studies to support their learning.

Their collective interests in the program were based upon enhancing their knowledge as skilled and marketable practitioners, in a field that lacked qualified practitioners. Each student desired flexibility and convenience in learning, and

found the online format met those needs. As one student shared, I wanted to "equip myself with [field specific] knowledge to facilitate my job hunting in the future. This is a one year program and fully online, that fits my schedule".

There were discrepancies in the amount of experience the students had with online learning. Of those that had no prior experience, one student was from the younger age category. The two remaining respondents indicated that 1-2 and over 5 courses had been taken, respectively.

All students used high-speed Internet using desktops or laptops as their primary computer. The student with the most online learning experience had also used other mobile devices such as a tablet to engage and interact with the learning environment, but had not used a mobile phone.

Having the option of participating in the study through an in-person interview or an online questionnaire, all respondents elected to participate online. Their impetus for participating in the survey was twofold. First, experiences associated with online learning challenges revealed that the learning environment was not barrier free to support the variability of learning needs of these participants. As one student shared, "I hope to share my *painful* learning experience which might be useful to make the future courses better," Second, three participants' experiences reflected a sense of urgency to address the broader needs within community where service gaps existed. As the only academic credential delivered through distance education in western Canada, their contributions reflected a desire to acknowledge the strengths of the program, while addressing issues that had created barriers for them as distance learners. Notably, the barriers

that were experienced by all students were deemed to have implications for their future employment, impacting the quality of their professional knowledge and practical skills. As one student shared, "there is a need for knowledge in the field and people serving families who have children with autism should be well informed and educated."

In orienting toward to the phenomenon of inclusive andragogy in distance education, the students' lived experiences primarily addressed their immediate learning environment, although institutional supports and services had their place in how students ascribed meaning to inclusive andragogy as an overall learning experience. There were four overarching themes explicated from their experiences including:

- System Accessibility
- Curricular Accessibility
- Technological Accessibility
- Human Relations and Interconnectedness

The interpretation of these themes required "a phenomenological sensitivity…[to understand the students'] realities and lifeworlds," (van Manen, 1991, p. 2). This was derived through the linguistic meaning explicated from the text in their interviews. The textual reflections that follow give rise to the significance of inclusive andragogy in distance education as it was lived. As van Manen (1991) suggested, one's "[andragogic] thoughtfulness and tact" could be enhanced as an educator within this program through this reflective interpretation. Table 7 summarizes the themes and the meanings the students ascribed to their experiences

associated with studying in this online program, followed by a more detailed interpretation of these themes in Chapter V.

Table 7: *Summary of Student Experiences and Responses*

Theme	*Subordinate Themes*	*Emergent Themes*
System accessibility	Sense of connection and belonging	Orientation to institution & program
	Responsiveness of services – fair and equitable use	User friendly learning environment Effective partnerships between institution and community partners
Curricular accessibility	Representation of Content – flexibility in use and presentation	Consistency and redundancy Instructor Creativity
	Perceptibility and Clarity	Navigation through courses Lack of clarity in instructions
	Expressing knowledge	Types of activities/assessments Preferences for learner centred or teacher directed activities
	Supporting metacognitive processes	Self monitoring Knowledge checking
	Communication and Collaboration	Group interaction Ability to participate Cultural discontinuity
Technological accessibility	Functionality of platform	System errors
	Confidence and aptitude	Familiarity with technology Consistency between courses
Human relations and interconnectedness	Degree of social interaction	Need for social engagement
	Need for feedback	Scaffolding of learning
	Intra communication	Type of interaction Communication impacting practical application

Theme 1: System Accessibility

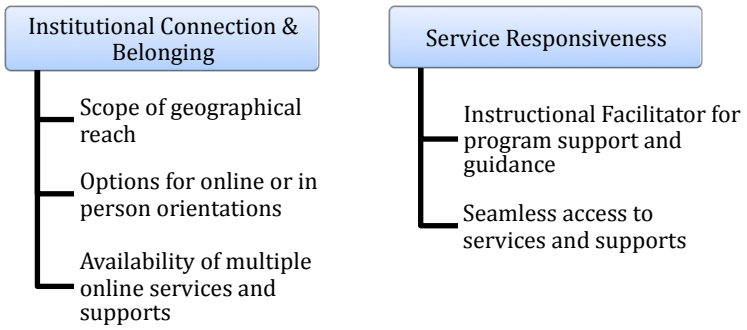

Figure 2. System Accessibility

In orienting one's reflections towards an inclusive learning environment, students were asked to comment on their experiences of being part of the institution's community in relation to their role as online learners. The main theme that emerged from their lived experiences related to system accessibility from a broad perspective. Several students recognized that the program was just one part of how their sense of community to the institution was derived, and that the institution as an entity unto itself was responsible for their overall learning experience. System accessibility was informed by the two subordinate themes relating to one's sense of connection and belonging, and the responsiveness of services to be fair and equitable in their processes and practices as depicted in Figure 2.

Sense of connection and belonging.

Students experienced a greater connection to the institution as a result of decisions made by the institution to support online learning opportunities that

extended beyond the boundaries of the physical location. Addressing community need on a broad scale increased their sense of community and was a contributing factor for enrollment in a niche discipline. In one case, the online program provided access to a remote and rural setting, providing the student with a learning opportunity that would have ceased to exist otherwise. As another student indicated, "I was impressed with the ability to initially present and implement program to a wide variety of communities throughout the [province]".

Further, the scope of online services available to online learners contributed to their sense of connection and community. For example, students acknowledged that the support services including the learning centre, library and IT helpdesk had been helpful to their learning experience when needed. Another student felt comforted to know these services were available although had not accessed the office for students with disabilities or learning centre.

In comparison, two students indicated that their preferences for having proximal distance to the institution had provided reassurance in being able to access all services, and convenience if and when they were required. There was a tenor of lack of trust in the online learning environment and for these students, the tangible grasp of brick and mortar provided a sense of security and of belonging to the academic community. For example, despite having an option to attend an online orientation prior to the launch of the program, these students attended the alternative face-to-face orientation to establish their new relationship with the institution.

> After attending the orientation day in [institution] campus and the in-person orientation for the [program], I gained my sense of belongings as

> being a [institution] student. During these two days, I met my fellow students (both people from other departments or my [program] classmates and instructors) face to face in the campus. It was a big deal for me to feel that I'm not alone.

Responsiveness of services.

The responsiveness of institutional resources and services was deemed an essential part of institutional support, providing another perspective contributing to essence of inclusive distance education. There was comfort in having a point of contact prior to starting the courses in order to help navigate the academic environment and program, despite having the same information distributed on the institution's website. This contributed to one's sense of a fair and equitable learning environment that addressed student concerns in a timely fashion. As one student described,

> I am glad there is an instructional facilitator in my program. She is really helpful to me in tuning me into the program before the semester begin by continuously emailing different information.

Further, seamless access to services contributed to the sense of institutional support and service responsiveness. For example, one student experienced "both registration, library and bookstore [service] as excellent and highly accessible'. For those that used "Ask a Librarian" and required Helpdesk support, three of four students indicated that they were "very efficient and user-friendly". At the same time, several students experienced barriers when access to services was disrupted or delayed, resulting in a high level of frustration. When multiple systems failed to be responsive, this increased the disconnection students experienced with the institution. For example, one student had experienced several challenges with "registration for a couple of courses and the delay of receiving text books."

Having these types of barriers heightened the student's anxiety and put the student in a position of being behind in learning. These experiences contributed to a feeling of being disadvantaged in comparison to other classmates.

Theme 2: Curricular Accessibility

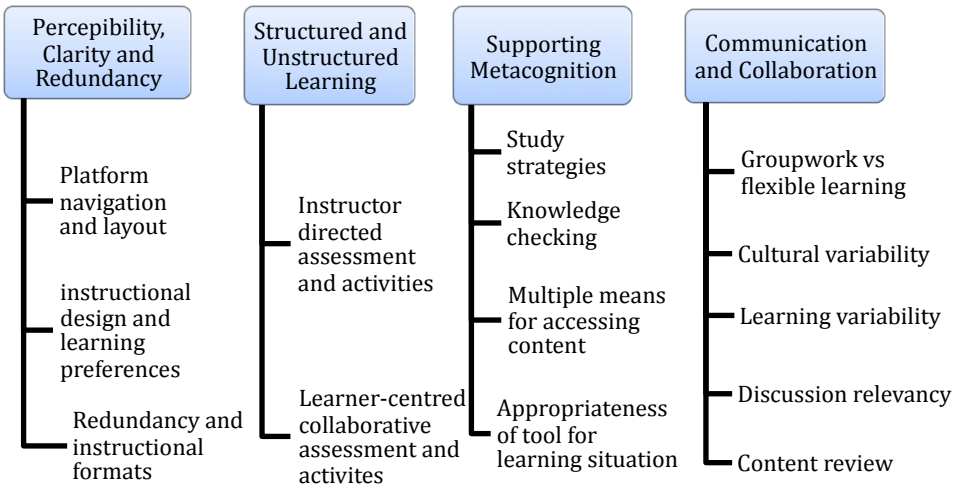

Figure 3: Curricular Accessibility as Viewed by Students

Curricular accessibility emerged as a second theme when students recounted their experiences of learning online in the program. As it related to inclusive andragogy, students also addressed four subdominant themes relating to perceptibility, clarity and redundancy; structured and unstructured learning based upon instructor directed and learner-centred approaches; mechanisms to support metacognition, and communication and collaboration as depicted in Figure 3.

Perceptibility, clarity and redundancy.

Navigation of the learning environment emerged as a subordinate theme for several students. Many of the courses were experienced to be "exceptional,"

although students had divergent experiences with the perceptibility and clarity of information. For example, one student found the platform and navigation to be "clear and easy to follow through", while the youngest student and one of the students who had English as a second language did not find it "user-friendly". The experience of a well-designed learning environment contributed to perceptibility and ultimately comprehension of content. When the perceptibility of information was compromised, two students expressed frustration over the lack of convenience and efficiency in learning "experienced in many courses, causing barriers for initiating work on assignments." This was exacerbated by a lack of clarity in instructions and timeliness of instructor response.

> I often find that instructions are unclear which I find is difficult to get started on assignments. I have to send a message to an instructor asking for clarification and waiting for a reply. Communication is not immediate; I find that to be difficult.

The instructional design and scaffolding for learning was instructor dependent, thus, discrepancies existed in how students experienced strategies for information processing to assist in their comprehension. In one case, the student described the reoccurrence of text-based content duplicated again in PowerPoint ineffectual. This duplication was experienced as a "lack of creativity across several courses when compared to what occurs in a classroom based setting." The student whose primary language was English and who did not self disclose a disability described,

> I felt there were some instructors who used blackboard presentations in a manner that was simply too redundant, by presenting our required readings in a PowerPoint format. That was pointless and did not approach diverse learning, ensuring students were understanding the required material.

Structured and unstructured learning.

Students were asked to describe their experiences for demonstrating their knowledge, which included "quizzes, essays, exams, interactive sessions through video conferencing and real life application through practicum". Combinations of formative and summative activities and assessments for individual and collaborative study were recalled, which provided greater understanding and for what was considered most valuable. For example, when reading the students' transcripts, the placement of how these items were listed seemed to place importance on what was most impactful for supporting their learning. Three students had listed quizzes and guided lecture notes first, followed by more interactive type of activities associated with demonstrating their knowledge. When reviewing their responses as a whole, the students in the older age category preferred a more structured learning environment facilitated by instructor led instructional practices. The younger student deviated from this pattern, identifying learner centred and collaborative approaches more distinctly in [her] responses. Video lectures, reading content and applying knowledge in interactive forms such as discussion forums and group assignments figured prominently throughout this student's experiences.

Supporting metacognitive processes.

Instructional strategies and formats used to support metacognitive processes for content acquisition and comprehension was a common theme expressed throughout student responses in terms of understanding where to place emphasis for studying

In synthesizing these responses, the following were highlighted as means that either supported or inhibited their learning experiences.

Guided lecture notes were experienced as a helpful study strategy for 3 of the 4 students, where quizzes were used as a primary source of assessing knowledge. As one student experienced, it helped to "reinforce the content and allowed for material for studying." At the same time, students preferred having the opportunity for independent knowledge checking to understand their errors and mistakes to facilitate better comprehension of the content. As one student described, "one disadvantage of the quizzes is that [they] were not presented with the correct answer if we made an error. This required emailing the instructor."

One student was reinforced with the combination of lectures, readings and form of interaction as means to absorb the content and support learning, yet found "required readings with no following assignment" inhibited learning and stopped short in terms of prioritizing what was necessary for essential knowledge acquisition. Video reviews were also identified as an effective means of knowledge checking for one student who claimed they "[guided] me in the right direction."

There were differences in how students engaged with video as a means for assessing knowledge depending upon the nature of the course. One student found it "motivating and engaging", while another found it lacked the academic rigor for practical skill development. Practicum assessments were a point of contention for one student who felt strongly that more traditional means of assessment were required.

> Video assessments are NOT ENOUGH when fulfilling a practicum experience. I strongly recommend that practicum procedures on the part of the college are reviewed to ensure students are leaving with the best skills and knowledge possible. Reviews of a 15 minute video are not enough and there needs to be some level of consistency between the practicum instructor and consultant. I feel that there needs to be observations directly onsight and CONCRETE criticism and evaluation of the student.

Communication and collaboration.

Communication and collaboration emerged as a common theme for all students, with emphasis on instructor expectations for action and expression through asynchronous and synchronous means. Building knowledge as a community of learners through means of collaborative group work and assessments was a particular area of focus, which gave rise to students' perception of inclusiveness in online learning.

Two students experienced the instructional formats of collaborative learning spaces challenging due to the reliance on peers. The instructional strategies used to accommodate self-paced learning were compromised by peer motivation and lack of efficiencies for timely communication. As one student described, "the group work assignment I find to be difficult because everyone is on such different schedules, and to get in contact with everyone seems to take quite some time."

Inequities in learning were also experienced in the collaborative learning spaces where marks were assigned. For example, accommodations for cultural and linguistic differences, writing abilities, and field specific knowledge were neglected, as perceived by second language learners.

> Since I am an immigrant from Asia, it is very difficult for me to start knowing the whole social welfare system, NGOs, legislation system, etc

> from level 0. Beside, unlike other classmates, they have been working as [practitioner] for a period of time or have a child with Autism; they have so many front line or personal experience to share in the discussion session. It's very frustrated to have low participation rate in the professional accountability and participation".

Despite the responsiveness of instructors to support these students' knowledge gaps through email or text based feedback on assignments, two students indicated that it was "very difficulty to be an active participant in discussion assignment or collaborate session."

> Everyone is a different skill level of writing, and I find it to be difficult to try and keep up with someone who excels at writing, when that is not one of my strong points. I feel like my marks are negatively reflected because of it.

Instances of "irrelevant discussion" exacerbated challenges in managing discussion forum content as experienced by these students. On the other hand, discussion forum postings were noted to be 'very constructive and informative' when reviewing content and providing a means to more fully appreciate the diversity of perspectives within the cohort.

Theme 3: Technological Accessibility

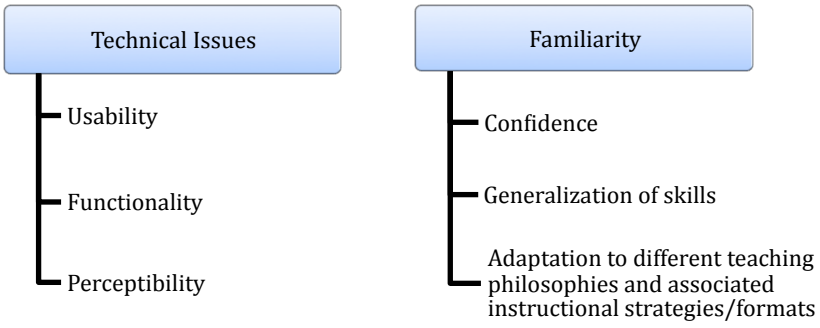

Figure 4: Technological Accessibility as Viewed by Students

Technical issues.

Access to technology was a common theme that emerged for 3 of the 4 participants, influencing their perceptions of inclusivity in the learning environment. In particular, subdominant themes reflected experiences associated with technical issues and familiarity with Blackboard, as depicted in Figure 4. There were variations in how the students experienced technological access but notably, they reflected on experiences that created learning barriers particularly as it related to usability and perceptibility. For example, one student expressed, "I encounter *error, access denied, and server down* messages when trying to access my courses." A sense of frustration was heightened when "PDF files, images, links, videos [were found to be] often unreliable."

Familiarity.

Familiarity with technology was a subordinate theme that influenced the level of confidence participants had in online learning. As one of the more inexperienced students shared, "the first course was intimidating due to the platform used, but I felt more confident in subsequent courses with instructor assistance".

Courses employing different online tools were found to create barriers for students who expressed a greater need for consistency between courses. These limitations were exacerbated by the discrepancies in teaching philosophies and associated instructional strategies between courses.

> I found myself running smoothly in the course until week 10. The days before week 10 were very difficulty. It seemed that both the online learning mode is difficulty to me in terms of knowing each function keys in Blackboard as well as the learning materials of both classes.

Theme 4: Human Relations and Interconnectedness

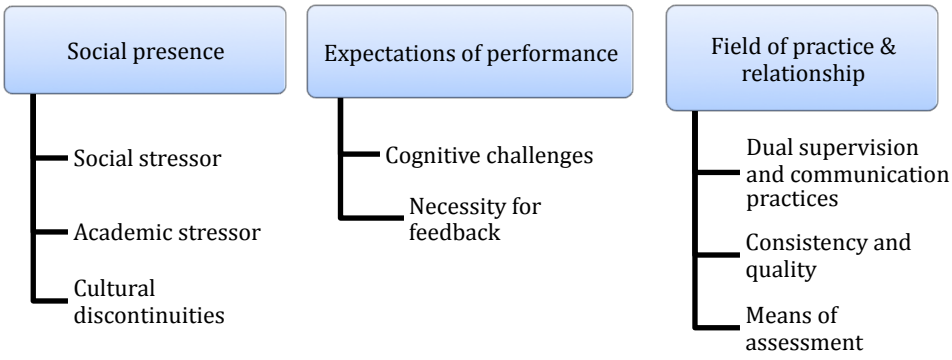

Figure 5: Human Relations and Interconnectedness

Human relations and interconnectedness with peers and instructors were strong themes that emerged as a component that enhanced or detracted from an inclusive online learning environment. In particular, three subdominant themes associated with social presence, expectations associated with participation and communication between the institution and field partners were highlighted by all students as components related to human relations and interconnectedness, as shown in Figure 5.

Social presence.

The differences between face-to-face instruction and online interaction were a strong theme for two of the students who had less experience in the online environment. The need for social and human connection was succinctly expressed as a loss in the learning experience, and "socially limiting and less engaging." Other students were not necessarily aware of the social and academic stressors

placed upon their peers who struggled with the perceived lack of social engagement and requirements for learning through social discussion. As one student indicated, "I think [the social interaction and engagement] was fine with both peers and instructors…correspondence with students varied but that to me is expected." However, another student experienced these social spaces as inhibiting due to language barriers.

> Some peers can response to the discussion regularly. Very impressive! Sorry that I can't make the same efforts like them…it is very difficult to be active participant in discussion assignment or collaborate session.

Expectations of performance.

The need for connection between students and faculty was experienced more intensely when the exigent demands of the learning environment interfered with their cognitive abilities and ability to perform. These emotions reflected a sense of urgency, resulting in a desire for immediate feedback and enhanced instructor availability.

> I often find myself confused on a topic and cannot go forward with the assignment until speaking with an instructor, which usually takes anywhere from a full day to a few days.

Field of practice and relationship.

Collaboration between faculty and practicum site field supervisors was cited to be critical for ensuring effective guidance, support and skill development. One student expressed disappointment in her practical experience, feeling that her goal towards becoming an informed and knowledgeable practitioner was compromised due to ineffective communication. As video observation was the only means by which this student could demonstrate knowledge and receive

feedback, the lack of collaboration between community partners and the institution created a significant learning barrier for this student.

> Observations and evaluations should take place on sight by an [institution] instructor or committed consultant with the guidance of the [institution]. It should ensure students are being properly informed and guided. I do not feel that video observation is sufficient.

The responses of the students reflected their experiences of inclusiveness in context of being consumers and end users of the online program. To provide a systemic perspective, the following represents the lived experiences of the stakeholders in context of their roles and responsibilities.

Situating the Stakeholders

The findings for this study sought the perspective of ten stakeholders associated with online learning in postsecondary education to provide a spectrum of experiences in gaining a deeper understanding of inclusive andragogy in distance education. All stakeholders had two or more years experience teaching online, or were involved in a support service capacity supporting online services for students. Hence, the second category interviewed in this study consisted of:

- Four instructors in a human service faculty, two of whom taught directly in the program under study, and two who were from other departments but associated with the program under study).

In addition to these four stakeholders, five other members from relevant support services participated, providing a more wholistic representation and systemic perspective of inclusive andragogy in distance education and online learning. These individuals involved:

- A member from the academic technology service department specializing in Blackboard support and training;
- A learning specialist with expertise in evaluating and coordinating provisions for accommodations and student support.
- A resource teacher from a secondary distance education school with expertise in supporting students with disabilities or variable learning styles while using UDL as a framework, and expertise in transition support for student's pursuing postsecondary education.
- The remaining three participants were from the learning resources department, encompassing roles associated with the library, learning centre support and online peer tutoring services. Of this group, one member held the dual role of instructor with extensive experience in online teaching.

With the exception of the resource teacher, all participants resided locally and were employed with the institution for a minimum of eight years. English was the primary language for 8 participants. Sign language was the dominant language for one faculty member, while English was a second language for the remaining participant. Having a working relationship with all participants in this category, anonymity has been maintained for each person.

Prior knowledge of inclusiveness.

Bringing together multiple stakeholders across the institution gave moment for pause. Teaching in a discipline whose emphasis surrounds philosophies and practices associated with disability studies, disability culture and "inclusiveness",

one becomes acculturated to field specific terminology and practices. The assumption that others might perceive "inclusiveness" through the same socio-cultural perspective risks an ethnocentric account of understanding the lived experiences of the broader work place culture. To mitigate this occurrence as much as possible, it was deemed important to capture the perspectives of how participants defined and viewed inclusiveness in postsecondary education as an initial point of reference when analyzing the deeper meaning of their perspectives and experiences in the online context.

Initially, participants perceived the essence of inclusiveness andragogy as an abstract construct, generalized and experienced as "access to education for everyone." Yet, the discourse changed when articulating experiences with inclusive andragogy in distance education. The role which one assumed in relation to distance education altered one's perception of its definition, giving it more depth. As a program faculty explained,

> When I first thought about it, I was struck with how it felt different than inclusive postsecondary and I thought that was interesting. I didn't know whether that was just because I was actually teaching an online course that perhaps is not as inclusive as it should be.

Despite professional training and prior knowledge associated with disabilities studies, the context for teaching and student support had implications for how inclusiveness was experienced and realized in practice. From the perspective of the academic learning technology specialist, the term became more technical and was experienced through the eyes of human computer interactions, connectivity, instructional design and acquisition of appropriate technologies.

> I was viewing it more in making it more available easily to all students who were taking the course. I was thinking more of making it so the students actually could have the equipment, could access, could easily navigate, could find things easily…all of that kind of thing. So that's how I interpreted that and that's interesting.

The findings explicated from the stakeholders' responses revealed an intricate web of processes and practices integrated at an institutional and job specific level. Experiences often reflected the barriers they encountered in practice as a way to ground their understanding of the phenomenon. In other words, in defining and understanding the meaning of inclusiveness more deeply, antithetical statements emerged as a means to grasp the concept more fully. The following reflects the findings derived through thematic analysis, uncovering the essence of the inclusive andragogy in distance education at the postsecondary level through the eyes of the stakeholders.

Theme 1: Institutional Supports and Structures

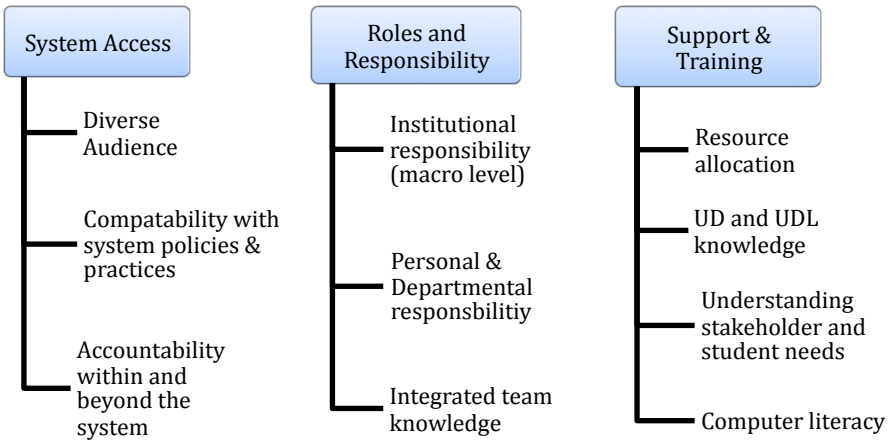

Figure 6: Institutional Supports and Structures

Institutional supports and structures emerged as a dominant theme through the stakeholders' experiences. Within this theme, subdominant themes of system access, roles and responsibilities, and support and training were common patterns that presented another aspect of inclusive andragogy in the online learning environment, as depicted in Figure 6 and are described below.

System access.

System accessibility was a common theme that emerged throughout all stakeholder responses. A relationship between the learner and the system was expressed through divergent themes, revealing experiences without proscription to ones experienced as conditional. Where inclusive practices were deemed conditional, compatibility with the system, accountability structures, roles and responsibilities, interdepartmental collaboration and instructional accommodation emerged as components to system access.

Inclusive postsecondary education was initially described as a paragon embraced through value-based statements described as "access for all" and facilitated through equitable practices for those deemed more vulnerable to the system. In reflecting on the relationship with this audience, participants described a rich tapestry of diversity encompassing age, gender, socio-economic diversity, single parents, learning style diversity, learners with physical or cognitive disabilities, learners with psychological or health related disabilities, and second language learners. Cultural groupings such as students from the Aboriginal community, and the Deaf and hard of hearing community were also highlighted as students that were more vulnerable to the system.

Throughout all the interviews, there were three distinct categories that continued to emerge in their understanding and experiences of inclusiveness in the online learning environment in relationship to the students. This was represented through experiences with learners who had self-disclosed a disability, those that were thought to have a disability but did not disclose, and learners whose primary language was not English. For students who did not self-disclose, instructors described experiences with students who presented with anxiety or learning disabilities. These students did not use the services from the office for students with disabilities, and it was unknown if they sought assistance through the learning centre. This grouping of students continued to experience academic barriers at the institutional level (such as engagement with the registrar, bookstore, and library), and at the program level as observed by faculty members.

In context of addressing learner variability within the postsecondary sector, the discourse moved *to whom* inclusiveness might apply - towards the nature of the relationship between the individual, the institution and the equitable or exclusive practices that ensued. As such, inclusive andragogy for online learners was expressed and experienced as compatibility with the system, systemic accountability, perception of roles and responsibilities, interdepartmental collaboration, professional development and training.

Compatibility with the system.

Inclusive postsecondary education (IPSE) was experienced as conformity to system standards experienced in the form of prerequisites, eligibility criteria and humans' propensity to adhere to one's sociological groupings. For example, the academic learning technology specialist perceived IPSE as an adherence to policy, whereby "it's available to anybody who is able to access postsecondary education. In other words, they have…whatever prerequisites that are required, that it's available to anybody that fits that." On the other hand, a program faculty member experienced inclusive postsecondary education as "fiction". Not only was inclusive andragogy experienced as limitations imposed through entrance criteria, but semi-permeable cultural structures that limited movement or interaction between disciplines as a result people gravitating toward their self-imposed and/or culturally-imposed socio-cultural groupings.

> The program tends not to do much with the geography program. And so there is not much inclusiveness outside of one's program. I thought in some ways, it just reflected culture, you know…just thinking of people's ethnic or racial background…people tend to live in there own little enclaves with people similar to themselves."

Inclusiveness in postsecondary education was also experienced as a differentiation between college and universities' expectations and assumptions associated with academic aptitude and knowledge. Accessibility to either type of postsecondary institution would be reliant on prospective students' ability to align with the entrance criteria and deliverables associated with the type of programs. As such, the college system was deemed to be more inclusive. As one of the learning centre specialists described,

> Part of what we are trying to do is that we are trying to reach as wide an audience as possible and include people who might not otherwise be able to participate in a traditional university setting…I don't see it as inclusive to absolutely everybody because if somebody is not able to participate in an academic setting effectively, for whatever reasons, I mean that's valid...they are given an opportunity to try.

This perspective was refined when some stakeholders discussed academic pathways as a means to enhance inclusive practices through block transfers agreements from diploma programs into degree granting institutions. Increasing accessibility options for students to pursue higher levels of education was experienced to be more prohibitive when the programs had an increased level of specialization with no transfer credit or limited transfer credit between programs or institutions, reflecting another element of inclusiveness andragogy at the postsecondary level. As one faculty member described,

> I think here at [our institution], we have a large number of closed programs, or semi-closed programs as opposed to university transfer which is supported to be broader where students might be taking, you know, math and taking geography, and so on…programs that have UT are more accessible than closed or semi-closed programs."

Systemic accountability.

The meaning of inclusive andragogy was deepened when the participants were asked to describe how learner diversity was addressed at the institutional level, revealing an ambiguous tension between personal conventions and organizational processes. Despite value statements supporting inclusiveness at a governance level, the decentralization of student support services and insufficient policy or guidelines was regarded as limiting. There was a general sense from participants that diversity was not adequately addressed due to the obscurity of any guiding policy or procedures, and the sporadic implementation of inclusive practices. As one faculty indicated, "I don't think the college *does* address diversity, but I think we as individuals do it, but not the college."

To account for inclusiveness and accessibility in general, learner variability was mainly perceived to be under the purview of the office for students with disabilities for students that had significant learning challenges - handed over as a distinct service to a subset of the academic population. Yet online inclusiveness and learner variability was "not very intentionally addressed". As a learning centre specialist stated,

> It seems to me that the onus is on the [office for students with disabilities] to find where there are problems and then try to work towards ameliorating the problems, so I think there's not very much onus on any other part of the college to um…to try to monitor or to encourage this kind of inclusiveness in the online environment….

The lack of awareness surrounding inclusive processes and practices at the institutional level revealed implications for marketing and recruitment strategies. This was exemplified by experiences described by several stakeholders who found

the institution's website inaccessible on several levels. For example, the absence of signing or captioned videos on the institution's website restricted accessibility of information for individuals who were deaf or hard of hearing. As a deaf faculty member expressed,

> They are not aware that we have it or not for the general public. It's not easy to know you just have that course online. It's the information that's not being advertised enough.

Further, several participants talked about how academic policies and awareness of inclusive practices had some bearing on a department's ability to offer greater flexibility in creating a universally designed curriculum. For example, constraints imposed through curriculum guidelines were perceived to create "arbitrary barriers" for students who required alternative means to demonstrate their knowledge. One faculty member shared, "60% of the course had to be written essays. So I don't have a lot of leeway in some of that text based sort of work." Students with print disabilities were at a greater disadvantage when demonstrating their knowledge when compared to those who were provided an opportunity to be assessed through oral alternatives or other visual means. According to the learning centre specialists, the writing of curriculum guidelines was an area of decision-making at the institutional level that could be revisited to explore accessibility issues for distance learners.

Provincial legislation was also experienced to inhibit information accessibility and the utilization of external resources that could enhance course content accessibility. From the perspective of a faculty member, accessibility of information for distance students was experienced as "crazy making", "costly and

time consuming" due to restrictions placed around copyright and the time consuming processes required to gain permissions. There was a thread of relinquishing and abandoning certain types of instructional materials as a result, as one of the program faculty members recounted,

> I think there is a big issue with library services as it's related to students at a distance. By way of example, when I did my last degree…I did that through distance and if I wanted something at the library, I filled out a form and *usually* within an hour or two, I had the electronic copy. So if I wanted chapter three out of a text book on the stacks, somebody went and photocopied it, and I got an electronic copy. And the library won't forward any electronic resources. They will do things by mail. So that increases massive costs, and its time sensitive! So when students are realizing, you know, two days before their weekly module is ending they want to get this information…they're not going to do it right, because its going to be three weeks before they get it.

Perceived roles and responsibility.

Stakeholders provided insight into their beliefs and practices associated with online inclusiveness as it related to their roles and responsibilities. Areas that guided their experiences were grounded in a sense of personal and professional responsibility, supported by a desire to share interdepartmental knowledge to enhance effectiveness.

Professional responsibility.

Stakeholders acknowledged that their professional knowledge shaped their understanding of IPSE and how this was practiced or implemented at a systemic level. Transferring this knowledge to the online environment generated more confusion, such that prior experience with inclusive practices was experienced as different and insufficient. For example, a program faculty shared,

> In our particular field, inclusive postsecondary is also a "catch phrase" for young adults with disabilities who want to come to university and are coming in…in a modified manner, using program like Steps Forward...you know, it was hard to think past that.

Implementation of inclusiveness through this lens was experienced as specialized programming for adults with multiple barriers to learning who would be able to audit courses to reduce barriers imposed through regular academic service delivery. Participants in the study did not mention online learning as a viable option for learners in this category; however, there was an element of tension for stakeholders aligned with disability studies who recognized the gap in practice and service options.

The resource teacher presented an interesting counter point, who experienced online learning as an alternative for students who sought an alternative to the traditional public school classroom. In this instance, online learning was experienced to be a point of access for students, which would enhance inclusiveness and facilitate access to higher learning. From her perspective, online learning was viewed as a viable means for supporting learner variability, where traditional means had not been successful.

Personal and departmental responsibility.

Extending beyond a professional response to inclusiveness, individual stakeholders assumed personal responsibility for addressing online accessibility. Despite early adoption for online teaching, implementation revealed knowledge gaps and minimal assistance for creating or supporting curricular accessibility. As a learning resource participant indicated,

> I think we all go out there and design the courses as best we can…with the learning we've been able to kinda put together ourselves and maybe sometimes with the goodwill of supportive colleagues who are maybe a little farther ahead of the curve than we are. Um, but to be honest with you, I can't recall ever or seeing anything come from [the IT department] that has workshops or gives advice in terms of embellishments to Blackboard that might be useful for people with various kinds of impairments or other kinds of learning styles or anything. I don't think I've ever seen anything mentioned to help figure that out".

This experience reflected a reliance on peers for support to supplement their knowledge gaps, although the degree of expertise was uncertain. Absent and ambiguous guidelines to inform accessible curriculum resulted in a tentative confidence for creating an inclusive learning environment.

According to the academic learning technology specialist, faculty developed their online courses based upon their own initiative, determining the most effective way to create the ideal learning environment. "It's *their* take on what works best, and hopefully, they will talk to their peers and for their advice and so on, but really, its up to the instructor". This reflected differences between teaching philosophies with associated instructional strategies, and an effort to decipher how to translate this to the online learning environment. Yet, this strategy was experienced as a "total free-for-all" and the "wild west" as indicated by two participants. The lack of institutional support guiding online curricular development was experienced as a barrier, and more so when considering learning variability and accessibility issues.

From the perspective of the Learning Support Specialist, advocacy was necessary to lobby for adequate resources and cross training to address learner variability for students studying online. From her experience, more integrated team

knowledge was required to enhance interdepartmental effectiveness for a universally designed learning environment.

> I have so many ideas about how we can collaborate and lobby for something at [the institution]. I'll tell you what I've found very frustrating...in order to have inclusive online learning, you have to have very good technological and IT support. Because...its not only the resources, like...the software, hardware and all of this, it is also the human resources as well. Because, in my view, what I have experienced working with the IT department is that I haven't found that these people are well trained [in] the recent developments in disability. Period…[and] it isn't just about disability because if you design an online course, almost by default…you have to think [about] how do I accommodate the needs of a student who doesn't have this very high computer experience with the student who is very literate in computers...we are not instep with the developments with what's going on from access of webpages…to even maintenance of online classes.

As many participants looked to other departments for guidance, there was an indication that interdepartmental collaboration and sharing of expertise was necessary to address some of the andragogic concerns experienced in the online learning environment.

In absence of integrated team knowledge.

Integrating inter-department team knowledge was a common theme that emerged by all stakeholders. In absence of this experience, some instructors sought out professional development for personal edification and professional integrity. Where the impetus for developing courses relied heavily on the instructors responsible for developing the course, there was an experimental phase. Faculty with limited experience in instructional design often experienced the process as being on the "bleeding edge". This experimental phase required a stretch of time to understand the instructional effectiveness of their courses based

upon student experience and feedback. As one stakeholder relayed, "It took me about 4 semesters of teaching a class to start to figure out what needed to be there and [then to] find the resources for the class."

Support service stakeholders indicated that utilizing an integrated team approach could address learner variability more effectively while supporting faculty with online learning, including technical assistance, "instructional strategies, and formats to address unique learning needs, and diversity awareness." Further, there was a sense that students could exercise their own agency to address learning challenges as adult learners more effectively. As a learning centre member commented,

> Well, my sense is part of what we see our role as a learning centre and in online tutoring is to help students to become more self reliant, to become more independent as students. And that means learning how to deal with stress, learning with how to deal with anxiety.

By adopting an integrated team approach, the larger ramifications of online learning and system efficiencies were also experienced as a means to address issues of inclusiveness and accessibility. For example, two stakeholders reflected on experiences where system maintenance and academic scheduling conflicted with student access to courses. The lack of understanding about department priorities, system maintenance and work-arounds resulted in barriers for faculty and students, increasing levels of frustration. As a learning resource stakeholder shared,

> On the last scheduled day of classes, IT took down their [online] courses because classes were over. Of course, the students still have to study the materials that were on the course site until their final exams, which wasn't happening for another 10 days. So there was this whole…disconnect

> between what it means to be teaching and learning online as opposed to the classroom.

Support, training and implementation.

Developing a centralized approach was emphasized several times throughout the interviews as a means to efficiencies while harnessing the collective competencies across the institution. As such, training in curricular and technological knowledge with sensitivity to universal design was a common theme that figured prominently with all stakeholders. With the push towards more hybrid and online development, support service stakeholders also identified it as a need as it related to their areas of expertise.

Resource allocation.

Despite acknowledgement for this type of training, many stakeholders identified the limitations surrounding resource allocation. Support service stakeholders had found that their experience for online resource development was limited and reliant on early adopters to maintain its existence; but also contingent upon institutional support to maintain its longevity. As a learning resource stakeholder shared,

> We haven't done any design of online learning. Um, we have one very brief pilot project...that was developed by two people that happened to have expertise in that area and took it on as sort of a project, but it got no other type of support and it fell by the way side. Those people weren't able to maintain it anymore.

Further, providing andragogic support and professional development to faculty who teach online courses was also experienced to be lacking, despite changing priorities. As a learning resource specialist described,

> We used to be really involved in the Ed Tech week that used to be there at the end of semesters. We would always have workshops and since [the professional development department] has gone by the wayside in many ways, that hasn't happened.

When asked about the type of resources and practices that would necessitate inclusiveness in our online curriculum, stakeholders indicated that there was still a lack of knowledge about creating a universally designed online environment, but a desire to understand it more fully. As one stakeholder mentioned, "we are just functioning from ignorance". The impetus for enhancing accessibility and inclusiveness was typically driven by the "need" as it presented itself to individual stakeholders. However, the issue of leadership and manpower to initiate and provide support in this area was nebulous; hence, several stakeholders looked to the IT department for guidance.

> We've got some really good Blackboard people, but they're stretched…they are really stretched…they don't have the time to do all those stuff that we would like to do, let alone add in inclusiveness and those sorts of things and I'm sure that that's not an area they know much about themselves

UD and UDL knowledge.

When asked about what UDL meant in context of online learning, stakeholders' responses varied according to their professional expertise and degree of exposure to the framework. Viewed as a means for achieving "equal access for everybody", utilization and implementation of UDL principles and guidelines was perceived to "require a lot of self development and support". With exception of the learning specialist and resource teacher who had more extensive experience with the framework, UDL was a vague concept for most stakeholders not directly involved in the program.

The American's Disability Act (1990) informed one stakeholder's experiences, influencing her understanding of UDL principles and their implementation when providing options for perception and visual alternatives.

> [Typically, course sites used] html [but] if you did put a PDF in, that might be printing purposes but it was not there as the primary form of the lecture...[further], making sure there was high contrast using text that was clearly visible…like there are some fonts that are better than others for screen reading.

Despite recognition that options for perception were designed with a specific purpose to enhance visibility for some learners, understanding the scope of these options was needed to address challenges for others.

> E-tutoring and Write-Away only allow black and white on a screen. They don't allow any color, whereas in the online tutoring that we use, I really encourage colour to make it easier to identify and notice what the tutor is trying to point out…it seems to me that it drastically limits what is possible in the online environment.

Implementation of UDL guidelines was viewed as a practice requiring flexibility on part of the instructor to adapt to their audiences' learning needs on an ongoing basis.

> It is like the emerging design in qualitative studies. The instructors almost have to wrap their mind around the fact that, depending upon their group or community of learners, you may need to change things as you go.

The emphasis on perceptibility and usability reinforced the need to understand the inter-relationship between human-computer interactions and disabling aspects of the online learning environment. For example, the learning specialist shared her own concerns regarding barriers experienced by students due to incompatibility between adaptive software and multi-media file formats "I've

been so frustrated because students come to us and when they tell you *I can't open this video file…how do we read this?!"*

Supporting a standardized look for all online resources was also experienced to be challenging, when perceptibility and usability were compromised. For example, a learning resource stakeholder described how some of the perceptual challenges associated with the department's website created barriers for diverse learners due to the functionality and oversight of the disabling features.

> We are sort of having a philosophical discussion with [the web designers, suggesting] that libraries don't work the same as a departmental information page so we have to have our own. It navigates with the use of tabs and drop down menus, which we've also discovered, is a bit of a problem because in Explorer, some of the drop-down menus cover overtop of other things and block out what you want to do below. The color schemes we've had to use (the institution's kind of color schemes), which may or may not be the best for people trying to differentiate the tabs. We also have this horrible little sliding-over-pictures that are supposed be informative but it slows down the entire system…which can be very upsetting when you're in a class and it is entirely visual…it is very difficult to read…it's not really helpful for people who might not have the best technology or other visual kinds of issues.

Understanding the need.

Designing for universal access and curricular accessibility was identified as an area still to be explored by most stakeholders. As a learning resource specialist shared, "there's some training on how to push the buttons and any training that I got, I got elsewhere, so I don't feel like we've had a great deal of training in that area." Further, specific knowledge and time commitments to embed accessibility features within courses were factors that influenced the use and nonuse of UDL in the online learning environment. As described by a program faculty member,

> I don't think I do a very good job of it. I hear [a former colleague's] voice about tagging, um graphics. Well, I could never figure out what that meant so I just didn't do it rather than figure out what it meant, then tag them so that someone could run their something over it and have it come back to them. So that meant everything, and it takes so much work to put things up into a course, that you're loathed to go back and do it properly.

Addressing universal design for learning in online tutoring was also experienced as a need. Anxiety is a component of the student experiences in accessing tutoring resources and support, so addressing issues related to motivation influenced the type of training online tutors received in "how to help students with anxiety". The foundation of this training indicated that support for claiming personal responsibility and self-management in the learning environment was essential for success. Yet, as online tutoring utilized email for the mechanism for exchange, it was suggested that this mode of interaction was more limiting in addressing inclusiveness and learner diversity. As the learning centre specialist stated,

> We do a little bit of training along that line, but...in online tutoring because it's email, all we can do is send some links and try to sound friendly and open as possible. Beyond that, I'm not sure we do anything.

Computer literacy training was also identified as a training need for students. Several stakeholders shared situations where this prerequisite knowledge was necessary for success in the online courses, but assumption had been made that these skills were learned in the K-12 system. "Initially when we switched to BB9, distance education students were basically told to go and find...the Blackboard training videos"

> The assumption is made that they all know how to do this anyway or they will be able to figure it out. They are asking technical questions that the

> instructors can't answer and there is nobody but the library to help them, and there is nobody to help on the weekend. They are being thrown into an environment where they are not being given a scaffolding ability to get successful right away…and some them, you know…walk away. And even when they come here, and all the computers are full and we can't help them, they don't know where to go.

As part of this training, the learning centre stakeholder suggested that within the realm of teaching computer literacy, it was more than "making everything accessible to them, it [was] also helping them understand *how* they [could] access it", to encourage self-efficacy and independence.

In light of the training needs identified by the stakeholders, the learning specialist recognized the opportunity for "taking a more proactive role" in partnership with the IT department to help address the knowledge gaps surrounding the intersection between learner variability and technology to address online andragogy and accessibility issues. In visualizing a "media handbook" pertaining to learner diversity, disability, and technology, the nature of the training resource could benefit multiple stakeholders and students.

> I think a lot of that could be generic; it could be generated...at the BB team level or in coordination with [office for students with disabilities]. Because a lot of it is not specific to the course and if we could work on developing some sort of module like that - that instructors could put in a course, I think it could be helpful to students and instructors.

Faculty members also expressed the need for training, especially in regard to instructional strategies for online andragogy. The investment in time and knowledge was recognized as a barrier as a subject matter expert.

> I've not taken any training related to online pedagogy and am merely transferring on campus methods of learning that do not readily translate onto online methods of learning. The more that I'm doing this, the more I'm realizing...I'm probably doing it in a very long and circuitous route...if I had some sort of design specialist who could tutor me.

Theme 2: Scope of Variability

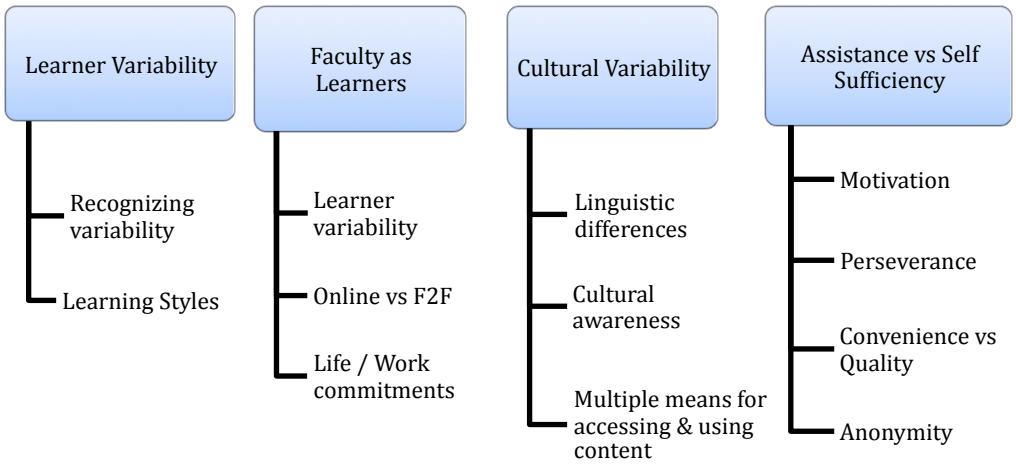

Figure 7: Scope of Variability

Scope of variability emerged as a dominant theme, encompassing students and stakeholders alike. In orienting towards inclusive andragogy, stakeholders' experiences revealed subdominant themes associated with challenges in recognizing learning variability, acknowledging faculty as learners, understanding cultural variability and the nature of seeking assistance, as depicted in Figure 7.

Learner variability.

There was uncertainty about the scope of diversity and need for assistance in the online learning environment when compared to classroom instruction. As a faculty member acknowledged,

> I don't think we are aware because we haven't experience it. We haven't had anyone come and ask for special accommodations or...say that there is an issue.
> I have not had any students in my online classes come to me with any adaptations the way they have in my face to face classes, where I've had paraplegic students, or deaf students or students with learning disabilities that require extra time for assignments, tests or things

Despite this claim, it was unknown if the structure of her online classes was more inclusive and utilized the principles of universal design to support learner variability or whether students could conceal invisible disabilities or learning challenges. At the other end of the spectrum, the ability to discern these differences in the online environment was more pronounced, and a point of concern for addressing this type of variability in curriculum. As a program faculty reflected,

> the differences become more sharp, at least I've been feeling it this year...when we look at our own student group, the *increase* of mental illness, and mental health issues and anxiety issues are *stunning*...and how am I accommodating for *that* in my courses...like quiz anxiety?

Speaking from a learning centre service perspective, there was a sense that students needed support, especially in relation to "technical questions".

> One of the first things I'd say is that they don't have the foundation, and [there] is an assumption that they all know how to do this...or they will be able to figure it out and some people can and some people can't.

Stakeholders as learners.

The barriers experienced by learners were not specific to students, but encompassed the stakeholders' own variability in learning and unique learning styles.

Stakeholders described their own experiences as "learners" in developing competency and effectiveness in the online teaching environment, requiring adaptability and flexibility on their part to adjust to the online learning environment. For example, one program faculty member described the impact of his own disability while executing his job responsibilities as an online instructor using Blackboard and other educational technologies.

> We all have to learn new technology even when we are teaching in Blackboard. And you know, I definitely, for instance, have a preference for using apple products and I am at a loss when I have to use something that looks like this thing (points to institution issued PC)…or when I connect here, you know using [my smart phone], I have to log in every single time, as opposed to being automatic. That means entering a password. But on my computer, I have special handicap software that manages my passwords because I can't remember them. And so I have to go to a separate special software to enter it in, or if I use the library computers, I have to do the same thing there, and there is an encumbrance…for me.

The learning centre found there were some efforts to address learner variability through physical accommodation so a student tutor could fulfill his/her role and responsibilities. Yet, it was uncertain what variability existed in the online environment for other students who did not actively seek learning assistance.

> the only one that comes to my mind is one of our tutors...who has some degenerative, um...I don't even know what it is, but he can't sit for very long. He gets a lot of pain and um...it is getting worse. So rather than have him tutor face-to-face, we encourage him to tutor online because he can do it from home and then he can lie, he can stand, he can do whatever he wants.

For those that sought professional development and used online learning as the medium, barriers experienced by students who had other life and work commitments were also found to be present for stakeholders. As one stakeholder shared,

> I'm involved in a course right now and I had to totally bail from this one segment of online discussion because I just could not participate to that extent. Online courses are promoted study in your pajamas, at your own pace, at your own schedule...and then you have scheduled [Collaborate] sessions...when sometimes all you can do is meet the deadline of the last project...its great when I can do it, but when I can't do it, I feel like I'm letting my group down and I feel horribly pressured.

Cultural variability.

Several faculty and the learning specialist reflected on the cultural discontinuities that existed in the online environment inhibiting inclusivity. In orienting to the phenomenon, participants described linguistic differences, a need for cultural awareness, and a deeper level of awareness regarding learner diversity in the online environment. For example, one stakeholder raised the issue of online learning being predominantly English based, resulting in barriers for students who were hard-of-hearing or deaf.

> for me that would be fine, but for deaf students, it wouldn't be as their primary language would be signing. So if their English would be their second, even maybe their third or fourth language depending upon their background, [therefore],

instructional approaches would require significant attention to address the linguistic differences. As a deaf faculty member, the online learning environment was experienced as limiting and could not provide the degree of accessibility that some students would require. Based upon his experiences, greater attention to visual alternatives were still required for deaf and hard of hearing distance learners to be successful in all aspects of learning.

> From a deaf perspective, signing is 3D, so we prefer to be in a room where you can see everybody…not on a 2D screen. That is very limiting. Secondly, visual cues, seeing emotion from the lectures, or seeing peers, its not there online. You can't actually get that, you don't know what to expect. Maybe you can read the captioning, and you can get the technical, its not fully accessible right. Sometimes films are not captioned…that's completely out. It doesn't really help and I know it seems like people think most people prefer learning online but that's not necessary the case for me. There is too much emphasis online and computers and technology I think. I'm fed up with it

As a second language learner, the learning specialist's own obstacles heightened her sensitivity to barriers experienced by students who sought services from her department. From this experience, students were faced with barriers associated with ethnocentric course designs.

> It isn't just about the students with disabilities because you know, as far as I'm concerned, ESL students is even more disabled than a disabled students. It's about the communication, right? Because I'll never forget when I was learning English, because English is so idiomatic and I remember a friend saying…what don't you take a short cut. Like we were talking about something and I was like…*she want me to cut my hair*!? But you know, these kinds of things happen every day. Because you think the students are acculturated because the students are in the [program] or other courses, we as instructors assume that they will understand the language. Period.

Seeking assistance vs. self-sufficiency.

There were discrepancies in how students were perceived to seek assistance in the online environment, and speculation about the motivations. Perspectives on learning assistance did not always reflect the learners who were ineligible for support through the office for students with disabilities, although it was likely that this 'group' represented a greater proportion of the student cohort.

> Some students just disappear and whether they disappear for reasons that have to do with a disability or anxiety, it's really hard to tell in an online course. They just...you can email them, but you can't get ahold of them, whereas I have had a few students disappear from face-to-face classes and then I am able to contact because they have previously come in with some documentation and I can contact the [service/office for students with disabilities] and find out, yes, there has been some kind of crisis. But again, I've never got any documentation from anybody in an online class so it's really hard to tell what is going on."

The learning resource stakeholder had mixed feelings about online student support and how students used it. When describing her experiences of *Ask a*

Librarian, the depth, and quality of support or reference service were compromised by the convenience of the online alternative.

> [In an online format], it is virtually impossible to draw out on this kind of stacco exchanges...we are even doing reference service on Twitter...well, that's not as famous as an intellectual conversation. Students like it...because it's nice and quick and easy, [but] we are pandering to that edutainment, dumbing down with everything that we do, instead of bringing them up into the academic world...they really aren't thinking deeply about the research information that they are gathering.

On the other hand, the learning centre was able to account for approximately 60% of their users as second language students who sought assistance for writing. In reflecting on other factors that might be at play when students made a decision to seek assistance or not, the learning centre stakeholder found there were benefits to the online learning support environment.

> [Students who] are reticent to come to face-to-face tutoring who are a little nervous, or have a social phobia or whatever about coming through a door and asking for help...there's a place in online that they can just send it. They don't have to look at anybody, they don't have to see anybody, they can just get help through email in a more comfortable...kind of situation.

Theme 3: Engagement and Connection

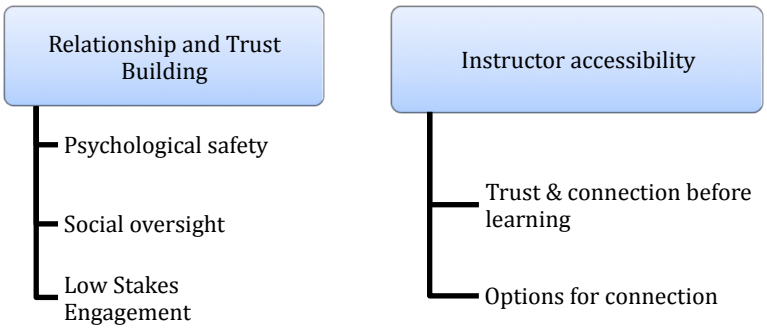

Figure 8: Engagement and Connection

Engagement and connection was a dominant theme shared by stakeholders and reflected similar sentiments that were expressed by the students. However, engagement and connection was also experienced as a conscious act in developing an inclusive online environment, highlighting subdominant themes of relationship and trust building, and instructor accessibility as depicted in Figure 8.

Relationship and trust building.

Relationship and trust building was deemed a critical aspect in creating a more inclusive environment when uncovering the essence of inclusive andragogy in IPSE. The need for human connection in the online learning environment necessitated adhering to psychological safety, social oversight, and instructor accessibility to create a more inclusive learning space. Hence rules of engagement and awareness of culturally competent practices to facilitate relationship building emerged throughout participants' responses.

Psychological safety.

Establishing psychological safety emerged as a theme throughout participant interviews when asked about what inhibited or enhanced student learning behaviour in the online environment. Establishing safety was often aligned with challenges encountered and reinforced through negative stereotypes about one's level of competence when seeking assistance. This was illustrated in an exchange between three stakeholders while discussing students' decision to self-disclose,

> S1: you know, the most common descriptor of people with learning disabilities is laziness?
> S2: You're right!
> S3: So that's a fundamental attribution error!!

Often perceived as a character weakness or deficiency, many participants described the students being fearful of engaging in help-seeking behaviours. A couple of factors that seemed to reinforce these fears were a combination of negative prior learning experiences and inaccurately attributing students' actions to a "personality trait or ability". As the learning specialist shared,

> In my experience, they were afraid that they would look like they don't get the things…they don't get it and because they are disabled or with a disability, I think there is still stigma, especially with our students and they don't want to look stupid.

A faculty member described her own disquietude in trying to find a balance between student support and encouraging critical thinking and problem solving behaviours within the student, epitomizing the challenges:

> You folks know me; I'm a nice person. I sometimes…I may be approached and I'm not sure if it's a need or a desire. Like, is this a learning need that you have that I will accommodate or are you just lazy

> and you want me to do it instead of you? …I've really made assumptions on some of those people that send me those repeated emails

Several stakeholders described the upfront investment required for relationship building. This essential task was deemed critical for removing social barriers so that if challenges emerged in the learning process for any particular student, "something [would] be more forgiving." For example, efforts to establish rapport early in the course, using both synchronous and asynchronous means to facilitate connections with and among students were experienced to increase motivation and reduce attrition. As described by the academic learning technologist,

> If I don't set that up fairly early in the course, only a few students will then come and ask. Others will just kinda fall by the wayside and I would have to work really hard to find out where they are, or where they went, all that kind of thing.

Social Oversight.

When discussing issues related to psychological safety, sustaining social oversight emerged as a means to enhancing inclusiveness and maintaining a safe learning environment. Several participants highlighted issues associated with bullying and inappropriate etiquette in the social spaces created in their online courses. There was a sense of needing to mentor students to engage in academically appropriate conversations. Despite being an adult centred learning environment, it was perceived that there was less ability to "manage [online] classroom behaviour" and recognize its psychological impact on students and how it would manifest in their level of participation. As the learning specialist reflected,

> I had a student who came for advice because she was so frustrated with some of this boasting, and how some of the people were reacting to some

> of the comments. So it is very, very complex. So if you think you want to engage students in this interaction and social engagement…as an instructor you have to have support to know what potentially are the roadblocks that you might face.

Low stakes engagement.

The type of interaction and engagement was a common theme that emerged as one that either enhanced or detracted from creating an inclusive environment. In part, this was viewed as creating a learning space that enabled low stakes engagement as a primary strategy for creating trust and building relationships. In addressing issues of "reticence" to seek support, the learning support stakeholder identified feedback and how this was sometimes misinterpreted as a potential barrier.

> The problem with online writing tutoring [is the emotional aspect]...the only way we can deal with that is to be very friendly. To really push the side that we are peer tutoring, we are not marking...we are just here to support.

Instructor accessibility.

There was a general tenor from stakeholders that students were anxious learners, especially at the beginning. Consequently, their own behaviours reflected an urgency to build trust and connection with students early in the relationship. When the connection was perceived to be frequent but discretionary, there was a greater sense of dependability in the relationship. This was experienced as reducing the sense of isolation for both students and faculty in the online learning environment.

> I create a lot of work for myself at the beginning of the course, but I think it, it's really important to have students comfortable in contacting their instructor if they have a problem, rather than just kind of being adrift and

> feeling like there is no one there to help them…I have had a lot of student commentary about it, is that I answer emails at least twice a day and about anything and I have had a lot of students, even in the first week of the course say "*Wow", I'm not used to getting that quick of response and that regular"!*

From a service perspective, instructor accessibility was also experienced as an "openness and willingness" to provide alternatives and options for students with variable learning needs based upon the expertise and advice of other stakeholders. As the resource teacher explained from her perspective,

> The best teachers were open to suggestions from the student services teams in terms of ways that they could alter this particular assignment to be representative of what the student's particular understanding of the topic was.

This type of engagement required a shift in thinking for some stakeholders. For example, one faculty member expressed angst when directing students for extra help, as though not fulfilling her job responsibilities. "As an instructor, I provide a lot of referral and sometimes it almost feels like passing the buck."

At the same time, the learning specialist felt students were served best if they were able to articulate their needs to their instructor and advocate for the means by which they were best able to articulate their knowledge. To illustrate her point, she shared the following example of an exchange with a student who was struggling with quizzes

> Well do you think that if you present your answers in an oral format, you will do much better? and she's like *Ya, I think so.* And that is exactly what happened. You wouldn't believe her mark went 20 points higher!"

Theme 4: Curricular Accessibility

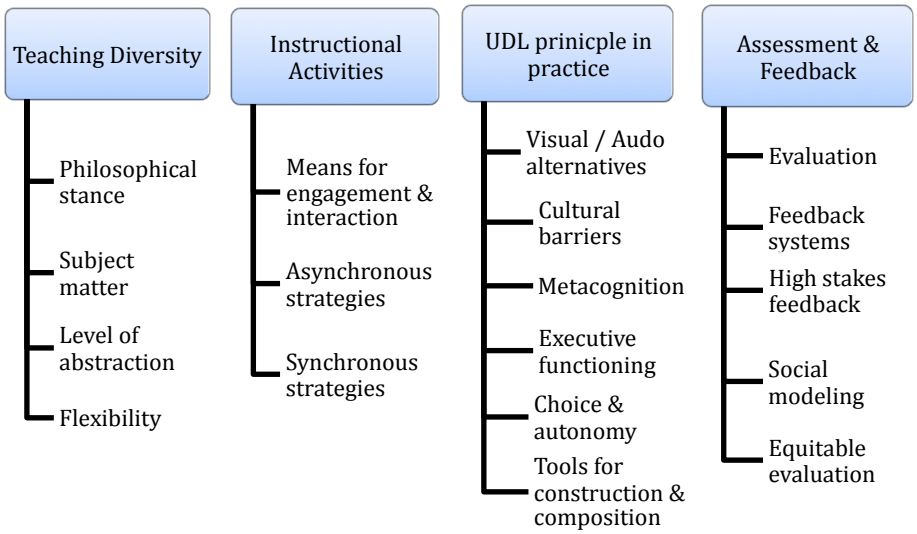

Figure 9: Curricular Accessibility

Participants were queried about their experiences related to the different types of teaching and learning strategies being employed in the online learning environment as it related to their area of expertise. In orientating to the phenomenon, curricular accessibility emerged, drawing greater attention to andragogy, accessible instruction design and "how we [could] then, accommodate students with special needs." In most instances, the application of inclusive practices was experienced as one that occurred after the design and implementation of courses, rather than a starting point for informing instructional design. Instructional strategies integrated with instructional formats and teaching philosophies informed the subdominant themes of teaching diversity; instructional activities and UDL principles in practice; and assessment and feedback as shown in Figure 9.

Teaching diversity.

Teaching diversity emerged as a main theme throughout the interviews as a result of one's epistemological orientation and approach to instructional strategies. Differences in teaching philosophies revealed disparities in how stakeholders experienced the meaning of inclusive andragogy in context of process and outcomes. Instructional strategies that were confined to a specific teaching orientation were experienced to be prohibitive for learners whose cognitive or preferred learning styles misaligned with the instructor's. As one stakeholder shared,

> Most instructors have their expectations and students feel that they need to fit themselves to that little box. They might understand it, but they don't know how to fit inside that box. And if that box was just broadened it a little bit.

Despite strong adherence to one's roots, flexibility in instructional approaches was deemed helpful for differentiating instruction to facilitate students' acquisition of knowledge and variability in learning.

> [the instructor] does it one way and half the group really likes that, and the other half, [the instructor] probably drives them to distraction and really likes the way I do it. I've taken some of the things from [the instructor] because it works for me, but I also think it helps to bridge...But, I couldn't do it the way [the instructor] does it and I don't think [the instructor] could do it the way I do it so it's not about the students diversity at that point.

Adherence to teaching philosophy was also experienced to create barriers when instructional strategies were transferred from classroom to the online environment. For example, one faculty member relayed how his experience of using precision teaching techniques (a behavioural oriented instructional strategy) did not translate well in the online environment.

> I typically use a lot of precision teaching techniques where I'm doing a lot of oral responses for fidelity checks, where I'm finding out if what I've taught has in fact being learned through this oral responding...it works really. But I *can't* do that on this distance learning.

The nature of the subject matter also influenced stakeholders' perceptions of how one integrated their teaching philosophies for equitable learning. As the academic learning technologist shared,

> There is often more than one way of teaching one thing. You know you come at it from different perspectives...but there are certain subjects and topics that do require a certain step-by-step approach. You can't go into advanced something, if you don't know the basics first.

This perspective was also influenced by the level of abstraction desired by the instructor as it pertained to the subject matter as experienced by one faculty member.

> There is this idea in online learning that the instructor is kinda of the facilitator, so I try to facilitate student's finding a lot of the resources...I don't rely as heavily on testing as in quizzing as many other instructors do, as I'm in a course that is much more about text and discussing ideas, rather than specific knowledge.

Instructional activities.

Stakeholders revealed experiences that attended to the principles of UDL while designing or delivering instructional activities. In particular, emphasis was placed on various experiences associated with social presence.

Means for engagement and interaction.

Asynchronous activities were a common means for facilitating active engagement and interaction as afforded through email, discussion forums, and wikis/blogs. Discussion forums were identified as a means to facilitate students' acquisition of knowledge, while used to enhance community and communication

by most stakeholders. Further, they provided a visual alternative for engaging with content and demonstrating knowledge. However, *how* discussion forums were structured and designed were dependent upon the subject matter, student groupings and magnitude of the group. Several stakeholders felt they had not found a correct balance for creating an equitable discussion space. In part, this was attributed to variability in student motivation, as well as one's sense of competency in using the tool. As one faculty shared,

> Maybe its because I'm not doing it in a way that isn't highlighting it, but I found that once somebody like [student A] put an answer in, nobody else would because...she was usually the first to post, but you know what mean...anytime I've done it, and again it could be how I did the discussion format, [but] it's not been very successful.

There was an indication that subject matter intertwined with other factors in the learning environment, which influenced the decision making process for addressing learning objectives and selecting the appropriate tool. Based upon experiences within her own online courses and instructional design work with other faculty, the academic learning technology specialist shared,

> For my topic area, discussions do not work, you know, because it's either right or wrong…black and white type things. However, I know a number of areas where the discussion is just amazing. The instructors or faculty are just thrilled to bits, its unreal…and the richness that comes out. So I think very much depends on the subject, the topic, the course, and the instructor. And also to be honest, I think a lot depends on the students.

When students were motivated, discussion forums were rich with content but the learning space grew exponentially, resulting in cognitive overload for students and faculty. This was perceived to inhibit learning for students, and contributed to an enhanced workload for faculty. As one stakeholder described,

> They are a problem for me because they are too rich and they are supposed to be graded and I cannot grade every single week because there can be hundreds each week. And each response and another response and they keep going on like this, adding on and each of the small groups has so many…it snowballs.

Balancing group size also emerged as a concern in the online environment when attending to issues of student motivation and participation. For example, one stakeholder moved away from paired groupings to groups of 4 so "there [was] always a good number so that if there [was] a group that [wasn't] very participatory, there would still be enough for a group contribute."

Deemed as a necessary tool for enabling students to build relationships and generative knowledge through asynchronous means, the learning centre stakeholder found discussion forums invaluable for developing a community of learners. Building upon prior knowledge schemas, tutors were able to use authentic learning situations to establish greater links and connections to new situations that they encountered to enhance their understanding of student support.

> I think one of the most effective forms of tutor training that we use is our discussion board, where tutors post issues and then other tutors chime in and talk about it, in terms of *what would you do in this situation, or I had this type of situation today and I didn't know what to do*. They are required to participate in that discussion every week as part of their training. And I think it works well because it is case study, it's basically real life problem solving.

Wikis provided another means for demonstrating knowledge, while addressing the issue of group size and the instructor's ability to provide feedback. However, there was a steep learning curve in aligning learning objectives with the functionality, but once conquered provided another means for expression and

communication. Few stakeholders had felt confident using this tool due to lack of familiarity. As one stakeholder shared,

> last year wikis were a disaster, but this year they are much better, and I must say easy to mark...but I don't want [the academic learning technologist] to tell you what I did...(laughs)!!

Over time, another stakeholder was able to utilize the wiki to facilitate a successful collaborative learning environment as a result of structuring steps for comprehension, communication and executive functioning. In describing the activity, the faculty had experienced a means to create a learner centred approach that was motivating and supported students to achieve higher levels of cognitive thinking.

> They had to create wikis, that then served as a course glossary and they had to provide definitions, and they had to provide examples from the texts that they were reading, and they did an evaluation. They were saying that was one of the most useful resources [for when] they were writing their essays and studying for the final exam.

Email was used as an alternative means to communicate with students for various purposes; however, the use of email tended to focus on issues associated with students' need for clarification. For example,

> I do find my online classes take a tremendous amount of time just dealing with email from students with all sorts of different kinds of issues that in a classroom setting you can address as a whole class.

Recognizing that technology could be used to alleviate some of the workload while addressing learning needs, common issues addressed in the emails were transferred to the discussion forum as a more appropriate vehicle. A few stakeholders queried students' motivations for using email over discussion forums,

suggesting students' self efficacy and confidence to post publicly versus privately influenced their level of participation.

From the perspective of the resource teacher, students who had experienced negative learning situations were not always willing to take the risk of participating in an open forum when they entered a distance-learning environment.

> So there was hesitation, they were just afraid of failure, afraid of not being accepted again, so until you could convince them that it was safe, you weren't going to get them jumping in there.

Synchronous activities were also present in the stakeholders' experiences, although to a lesser degree for those not directly teaching in the program. Activities supporting this learning alternative included Collaborate, chat functions in Blackboard and on the library website, and the phone. Synchronous activities supported through Collaborate video conferencing were experienced as a critical component for supporting relationships and guiding learning. Further, it reduced the sense of isolation experienced between faculty and students. As one stakeholder shared,

> New research on teaching by distance through this new method of inter-teaching is this emphasis on relationship development and saying that it is one of the most important things. And I think Collaborate certainly achieves that more than other components I see embedded in Blackboard. This is my first time using it and I'm noticing I'm having more connect with my students...but it is more personal.

A learning centre stakeholder reiterated the experience of synchronous conference being 'personal,' but the sentiment drew away from theoretical components of instructional strategies and reflected a personal preference.

> I would like to use it more…I like to hear their voices…you know that is something that you really miss in the online environment; you don't hear the voices in the same way.

UDL principles in practice.

In addition to addressing various aspects associated with social presence as an essential component in supporting variability in learning, stakeholders revealed other instructional strategies that informed their decision-making associated with curriculum design. These decisions reflected attention to instructional strategies that enhanced strategic learning and motivation, with an emphasis on use of multi-media.

Visual alternatives.

Visual alternatives using multimedia emerged as a subdominant theme. Participants regularly discussed the use of embedding department authored videos or external resources like YouTube into their online courses or department websites for student use. For example, the library provided multiple means for accessing information resources through a combination of print resources with short videos on their website for students. These "links, guides and supports pages" were used as a means to support coursework and research skills. As the learning resource stakeholder indicated, the sophistication of students' research skills warranted several points of access to attend to learner variability. However, there was an indication that the catalogue still presented barriers for some learners with print disabilities or visual impairments requiring audio alternatives, such as text-to-speech readers.

> Some of our periodic journal bases have the capability that if you see the button to click on it, you can have it read to you...but those databases are primarily for lower level English language learners where they can read along and hear it read to them. It's not really designed for academic research for people who have visual impairment so we don't really have feature like that built into our resources.

Providing a means to assist with organization of material and information processing, the learning centre also used visual alternatives for students seeking support through use of short video lectures.

> They provided bite sized help to a gap we [observed] in the student's knowledge...which was much more effective than sending a handout that was just text...students gave feedback that *that* is what they find most useful…is the visual for things like formatting.

However, videos or video lectures containing larger pieces of content were not viewed as the most appropriate means for embedding video into courses or online support services due to student motivation and their ability to attend to multiple visual stimuli over an extended time. As relayed by one stakeholder, the nature of the content required different instructional strategies to facilitate deeper learning and understanding when analysis or interpretation was required.

When considering the intersection between language diversity and the use of video, text with visual support was deemed necessary to establish "relevance" and context for diverse learners from a deaf or hard of hearing perspective.

> It would be nice to have short videos because people, their English may not be that great so they can actually see what's happening, that together with the text. I think people forget the actual importance of visual cues and visual support. They rely more on the visual text and word. They are not always sure what that actually means and it's amazing…if there are connections with the text, then they are able to go through visually through the course

Yet, the absence of audio alternatives in the courses inhibited students' ability to rehearse or review the content, creating further barriers to guide information processing and comprehension. As a faculty member shared, when "there is no

captioning and the interpreter is not there" or transcripts are not available, the learning environment immediately becomes inaccessible and inequitable.

Instructor preference for visual alternatives also demonstrated the learning needs and preferences of faculty in designing their curriculum. However, when accommodations or accessibility features were not included to support multiple points of access to the content, these instructional decisions had far reaching implications for inclusiveness and student accessibility.

> I love finding videos for my students to watch, cause I like that more than reading, so I assign readings and videos, there is almost 50-50-in the course. Well that works great until we've got a deaf student in our [program]...if [the student] lived in Grand Forks, I don't know how it would work. Or would we have accepted [the student] into the program knowing that [he/she] was deaf, then having to say *Sorry, we think you should withdraw*…like what would we do? You know, I think I do it really badly and I care about diversity and inclusion.

Supporting metacognition.

Several stakeholders revealed that many students did not have strong metacognitive skills when applied to studying, revealing an assumption that these skills were learned in the K-12 sector. As such, there was a common thread of increased in "one-off" conversations with students amongst the stakeholders.

In using self-monitoring strategies as a means to promote comprehension and executive functioning, one stakeholder described how using "study behaviours [to] match their assessment behaviours" had proven to be an effective teaching strategy in his courses which contained a lot of online quizzes.

> When you are reading, are you underlining in the text? Well that's a study behaviour. Underlining is not required in any of my tests. Are you highlighting? Highlighting is not a testing behaviour. What is multiple choice? So what if for every paragraph you play the role of the prof...how would you convert this paragraph into a multiple-choice question and to do

> that for every paragraph of, um the text? In this particular year, one of my students I provided that and, uh, her marks in the first two weeks went from the lowest student in the first two weeks, to now she has become the A+ student!

This strategy provided a form of note taking to scaffold learning and comprehension, while reinforcing practice and repetition of the content. Supporting the transfer and generalization of course specific knowledge to the field was a concern for program faculty; hence, building in multiple forms of "repetition and practice" and "reflective practice" across program curriculum was experienced to enhanced learning outcomes.

> Its what we teach that we reinforce through practice, practicum, all that kind of stuff when the [program] is online, like we get them to videotape and we debrief and practice…we build in different loops, so the students get a chance to do it in a number of varied ways.

Other strategies to support metacognition and knowledge acquisition employed methods for repetition and recruiting interest over a period of time. For example, after submission of an assignment, a program faculty generated a list of questions from the students' work and used the polling feature in Collaborate to reinforce what was learned.

> They *loved* when I did a polling learning activity as a quiz review. I don't think they wanted to quit! They were sorry it was over. It was hilarious...it was three weeks later and it wasn't for marks, I just wanted to make sure they got the stuff. I could also elaborate on each element after they could see the results. It felt like a game show...that was really neat. I'll do that again for sure.

Supporting executive functioning.

Several stakeholders implemented instructional strategies and processes to assist learners in goal setting, while using mechanisms to encourage options for self-regulation. This included use of checklists at the end of a module, calendar

reminders, and detailed syllabi. If students struggled with writing and faculty could not dedicate more intensive support due to their own time constraints, the learning centre provided another option for students to address learning needs through email. The learning centre stakeholder also used strategies to support executive functioning, noting that

> If you really want to get good help from us, start submitting earlier than when you are done and go through the process of 3 drafts so we can start with the more structural issues first and then with the more editing issues later, rather than trying to do it all at once.

This approach enabled students several opportunities for practice and review, while minimizing anxieties in producing their assignments.

Encouraging individual choice and autonomy.

The learning specialist described learner choice making as a means to increase curricular accessibility. Where instructors provided flexibility in how students demonstrated their knowledge using various technologies, the results were deemed to be more effective for variable learners.

> I have worked with one instructor where we have a student who couldn't really talk so…because she wanted them to develop a little PowerPoint presentation and video, we figured out ways to have captioning and developing a movie. So it was a good experience trying to figure out how to present this. I was nicely surprised by the instructor; the instructor was very helpful for changing the methods of assessment.

Similarly, providing choice was deemed to be helpful to students from one faculty member's perspective as long as there were clear guidelines upfront.

> I just give them the topic. This is what I find to be the best. There are expectations but not limitations...they may use whatever tools, whatever resources they need to use to demonstrate their knowledge.

Establishing advanced guidelines when using learner centred approaches provided a necessary structure for comprehension. In using this instructional approach, the faculty indicated that the foundational skills needed to be there in order to achieve this level of flexibility in teaching. At the same time, this approach provided a learning environment that promoted student independence and relevant learning.

Tools for construction and composition.

Several stakeholders utilized external resources that enabled students to conduct research while using means to facilitate higher order thinking. This included use of hyperlinks to other resources and open source tools. One stakeholder shared an experience of using self-publishing on the Internet in combination with a peer-teaching instructional format. Not only did this support student learning, but this methodology expanded the faculty's understanding of how students would engage with multiple tools for construction and composition in a learner-centred environment.

> A lot of [projects] are amazing because they're using their knowledge about the course and what constitutes [the course concept], and then going and looking for it in other places that I don't have in the course and they are coming back and they are teaching that unit with their presentations. And then, they are using some formats that I wouldn't have used, too! They are creating Prezis and doing all sorts of …videos, they are doing things with sound, which I just don't know how. So it can provide some opportunity for students to create some of the learning in the course too.

Assessment and feedback.

Used as a means to gauge student success in achieving learning outcomes, student analytics, high stakes feedback, social modeling and peer feedback were subdominant themes as it pertained to assessment and feedback. Intuitive

knowledge and quizzing as a formal assessment were also present in stakeholders' experiences.

Student analytics.

Friendly controversy emerged over the use of computer generated student analytics and whether it enhanced or inhibited student learning. For one stakeholder, it provided a measure of validity for one's mark in relation to the larger context of the testing results. As a proponent of computer generated student analytics, "we got a link to a bell curve...So you just didn't get to your mark, you got to see anonymously the full range. I found that really, really really helpful." At the other end of the continuum, computer generated analytics were experienced to be inhibiting, increasing the level of perceived threat in the learning environment. As the academic learning technologist's shared,

> A lot of [other departments]...do not want the students to see the stats. Period. You know, they don't want to freak them out incase if they are doing badly.

High stakes feedback.

With the exception of the learning specialist, discussion forums provided a channel for student assessment. Although, the evaluative weight assigned to discussion forums varied among stakeholders according to the instructional purpose. For example, the learning centre used low stakes informal evaluation as a means to create a community of learners, reducing the possibility of risk in the online learning environment. On the other hand, faculty tended to use discussion forums as an instructional format to support content acquisition through high stakes evaluation. As one participant shared,

> I rely quite heavily on discussion and because that is the only opportunity that students have on a regular basis to interact with each other. So I've got 20% of the course for weekly discussions about some major concept of the course.

In consideration of inclusiveness, when the interaction was compulsory and associated with high stakes grading, some stakeholders experienced the interaction shifting toward a competitive tone, leading to suboptimal learning conditions for some students. From a deaf perspective, visual alternatives in the form of video chats were experienced as more inclusive forms of feedback. The conduit for exchange through asynchronous means suggested a more laborious means of engagement requiring a different level of physical exertion, "You know typing back and forth, back and forth…I just think having an actual live conversation, students would be more motivated for that."

In context of providing multiple means for evaluation, the learning specialist described the subtle pressure experienced by students who perceived that their choice for demonstrating their knowledge would reflect inequities in their grade. Rubrics or standards that did not reflect consistency or alignment between learning outcomes and *all* means of assessment for a particular assignment were experienced as inequitable.

> Like what do you see as an exit standard, define it and maybe give some ways of measuring it, you know, because let's say a student is thinking *ok, if I make a movie and the other student is writing a paper, is this…you, know empirically fair in marking this paper online*…is this an equal way of presenting pure knowledge? Is it clear?

Social Modeling.

Social modeling was another form of feedback that was designed in the online courses. Stakeholders described two variations brought about by faculty

intervention and peer mentoring to support a more inclusive learning environment. In the first instance, a faculty member described the importance of her role in modeling social interaction in the discussion forum as a way to establish the tone and expectations for performance. At the same time, this type of instructional strategy required a balanced approach to ensure student efficacy and participation were not compromised.

> I back out of the discussions, unless people specifically direct a question my way because students have a tendency to think *well the instructor has spoken, there is nothing more to say.* That kills the discussion!

The second means for social modeling was experienced through formalized peer-to-peer feedback. Integrating cooperative learning strategies with student-generated rubrics were experienced as an effective means for generating interest and motivation.

> They are observing each other rather than having the faculty coming in doing the observation all the time. And so, we do a lot of peer feedback and in the online environment that is very easy, because to have them look at each other's work, they use a rubric…to evaluate each other's work and give constructive feedback. But it does require listening and some training with online etiquette.

Using this approach was experienced to enhance self-regulation as it provided a "very successful way of checking with each other and with themselves, where they are meeting it and where they are not." However, trust building and the provision of concrete guidelines were critical to the process of learning and establishing a "social model" for engagement to ensure fair and respectful evaluation.

Intuitive knowledge.

There was an essence of ambiguity about what students with variable learning needs were actually understanding and comprehending. The use of quizzes and essays for summative evaluations were only one factor that shaped how successful students were perceived to be progressing in the online environment. However, the use of intuition was another facet for appraising the student in terms of their initiative and emotional and psychological wellbeing, especially when faculty were unaware of any exceptional learning needs.

> Sometimes I may be approached and I'm not sure if it's a need or a desire. Like, is this a learning need that you have that I will accommodate or are you just lazy and you want me to do it instead of you? And you know, when I feel that my intuition tells me its that, I usually tell them look at it three times and ask two people and if you still have trouble, come back to me…although I shouldn't be doing that.

When considering one's level of proficiency in being able to provide accommodations for the variability in learning, many participants acknowledged their shared inclination to draw upon their intuitive knowledge to evaluate the effectiveness of their curriculum and social relationships within the course, but found this more challenging in the online learning environment.

> I just don't have enough in-depth knowledge to really know if I'm doing a good job…I haven't really tested anything or asked people with …diverse learning needs whether or not its been effective so I really don't have any…I absolutely have no sense whether, um you know just my intuition… whether that works or not. I think I might be on the right track but really have no data to support my intuition.

The social cues available in a face-to-face environment were not duplicated in the online environment, leaving many faculty feeling at a disadvantage.

Quizzing.

Formative and summative assessments utilizing the quiz feature in Blackboard were regular practice amongst stakeholders. Despite its use and flexibility, quiz suitability and student probity were common concerns raised by stakeholders. One stakeholder found the scope of quizzing to be too "narrow" for students developing higher levels of analytic ability. To compound the problem, "you don't really know what they *really* know. They could have everything open in front of them. I don't really think it is the greatest way to assess knowledge". Grappling with the challenges of online quizzing was experienced as a lack of control over monitoring testing conditions in combination with testing behaviours of students. These issues impacted decision-making about the provision of feedback to sustain effort and persistence.

> Since the flow is asynchronous, they could give those answers to their peers…or do I not, and then have the students [complain] because they are not being told where they have made their mistakes. And so, I haven't found that correct balance yet.

Despite these challenges, the academic learning technologist shared how some of the testing features in combination with a repository of questions reduced the possibility of cheating.

> I have a pool of 50-60 questions from which I draw from and I randomize the options in the multiple choice so the students will never get the same ones. But I never let them see the answers because in the big picture, they're not really worth a huge amount of the overall final grade. They are only worth 10%...the chances of a student being able to get the questions and distribute them is so minimal. They are not going to make that effort.

Theme 5: Technological Accessibility

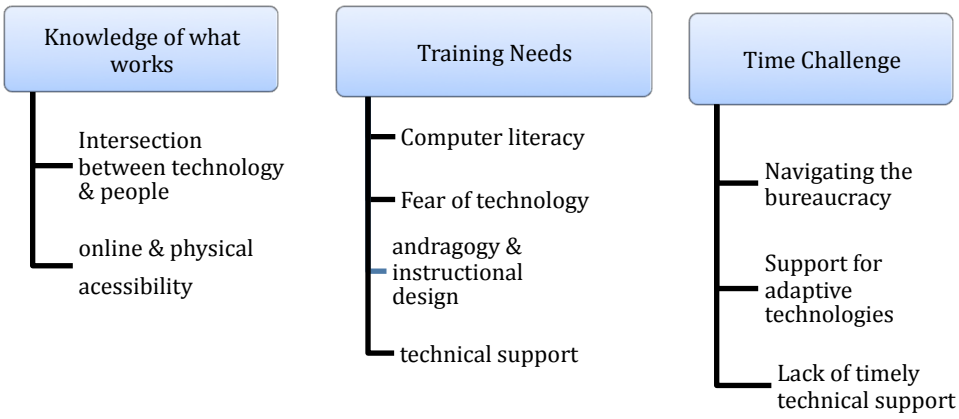

Figure 10: Technological Accessibility as Viewed by Stakeholders

The essence of inclusive andragogy in distance education emerged as confluence between institutional supports and structures, learner variability, engagement and connection, curricular accessibility, and lastly, technological accessibility. In particular, equity principles associated with usability, and knowledge about how to utilize technology effectively to support diversity, rather than learners haphazardly fitting to the technology were subdominant themes raised amongst stakeholders within time constraints that each member expressed, as shown in Figure 10.

Knowledge of what works.

Several stakeholders expressed a need for shared expertise with course design, "that also used a lens in terms of accessibility issues." Without a solid foundation of knowledge and understanding about what constituted accessibility and learning barriers in the online environment, stakeholders were often in the

position of creating accommodations for students after the fact or overlooking instructional interventions. As one faculty noted,

> I don't know everything in terms of what works for different populations, in terms of what their particular disabilities are, so I always feel like I'm playing catch up.

Further, the spectrum of disabling conditions heightened stakeholders' awareness about the complexities surrounding accessible design for those who accessed physical resources onsite for online courses. Despite universal design changes made to the library's physical environment, technological accessibility was not universal for all students due to security measures put into place for authentication.

> There is a student who comes here quite frequently...[whose] quite self-sufficient. He manages his wheelchair electronically, he pretty much only has the use of one hand...[but] he cannot sign on to the computer because he cannot do "Control-Alt-Delete", because he has to use both hands to do that, and you know, something you don't think of right? The first hurdle all the time is the same…it's a shame.

Training needs.

"Getting them over that initial hurdle" was a common phrase stakeholders used to describe their experiences in supporting students to overcome their fears and barriers encountered with the technology, especially if they were new to online learning. As one stakeholder shared,

> I've heard from several students as they are reflecting in the first month, the technology is really hard for them, especially for some of them that have not owned a computer before. Even things like using Word, and email, it is new for people. You know that's often hard for us...but it is for some people.

Despite the trend toward earlier exposure and success with using "intuitive technologies such as the ipad", this did not translate to students' predilection for Blackboard and technical problem solving. The unfamiliar landscape of online

learning combined with obstacles encountered early in the learning process, were reactions that required instructional interventions.

> People are often freaked out and so if you can just provide them with smooth sailing and getting all that done. I think over the years, that is one of the things that we've been pretty good at.

The faculty in the program had developed an orientation for students to address this primary learning need; however, this practice was not consistent across the institution. Thus, several stakeholders expressed a need to develop a "preparatory module" accessible to all users as an institutional resource to address students' self-efficacy and computer literacy needs.

Stakeholders had their own learning curves associated with the technology. Understanding the andragogy for online learning, much less how to use the technology with principles of universal design for learning embedded into courses was strongly articulated as a training need across the board.

- "I may be a content expert but I'm not an expert in online learning;"
- "It's just not tech, like I always say this is my second grad degree...like its mind blowing. Its just paradigm shifting;"
- "I've been an online student myself. I think all online instructors should take some online courses"
- We actually hired a full time staff person to support us in our online environment, most departments don't have that...but its college tools that make it difficult to even want to go there because whether it is Blackboard or [other software]...it's just really hard to make those tools do the work you want to without pulling your hair out sometimes. There would need to a lot more support, not only with technological staff but pedagogy.

Time challenge.

The time to learn effective ways of using technology to support student learning was a significant theme throughout the interviews. Limitations associated with bureaucracy, time constraints, and resource allocation was experienced as a barrier in addressing learner diversity and stakeholder support. As one stakeholder described,

> The hoops people have to go through! If you don't use, if you don't have a certain level of computer knowledge and technology knowledge…the basics, and if you don't use the standard college supplied equipment…you have to go through so many hoops to get there. It's really challenging.

Adaptive technologies, such as Kurzweil, were raised as an example that did not receive widespread support, despite a technology used in the public school system to support learner variability. The web-based version was deemed to be an effective tool at the postsecondary level for supporting distance education students with learning disabilities, low vision, blindness, and literacy issues associated with second language learners.

> [Students don't need to go to the [office for students with disabilities]…they can log in from their computers…again it's the cross between disability and providing equal access.

Further, being able to get assistance with the technology when required was also experienced as an issue when there were time constraints on teaching and finding prompt solutions to technological problems. As one stakeholder shared,

> If I need to do something and I need to learn something and ask for help, I have this window. And if the answer is not available to me in that window, I make it up, skip it, move right on. Like the window's gone. It's not like they can come and get me the week later and say we have the answer…

Summary

The findings presented in Chapter IV revealed consistent themes between students and the stakeholders, distinguishing a union between the thematic structures of institutional structures and support, curricular accessibility, social presence, cultural awareness and competence, and technological accessibility. This study identified the students as recipients of distance education service, and stakeholders as the players implicit in maneuvering within the structures, processes and the practices of institution. Their combined experiences encompassed an intricate relationship between institutional and department level influences, with a close alignment to relevant literature. As such, the discussion of the findings is presented thematically as they related to the objectives of the study in Chapter V.

Chapter V - REFLECTIONS AND IMPLICATIONS

This phenomenological study sought to examine the lived experiences and meaning multiple stakeholders ascribed to inclusive andragogy in distance education at a Canadian postsecondary institution through the lens of universal design for learning principles. Explicating the lived meaning through the collective perspectives held by multiple stakeholders provided a holistic approach as it is lived and practiced in day-to-day reality. This reflection on the findings was not meant to draw conclusions in the scientific sense of establishing cause and effect, but to reflect on the rich descriptions provided by the students and stakeholders, to "show what it [taught]" and how might inform our actions towards more inclusive practices in the online learning environment (van Manen, 1990, p. 153). The concept of "inclusive andragogy" itself suggested a way of being in the world that embraced a methodology for teaching that resulted in accessible learning for all adults. Yet, it was recognized through experiences and practices that revealed limitations and barriers for the participants in this study. The social model of disability informed this stance, which perceived barriers to be a socio-cultural construct rather than one attributed to deficits and cognitive abilities of learners. The principles of universal design for learning reinforced the concept of "inclusiveness", by attending to *instructional practices and processes* that encompassed the inherent variability in all learners, rather than designing online curriculum and support structures in which learners had to fit. Given these assumptions, this chapter sought to raise the voice of students and stakeholders to

bring greater understanding to the phenomenon of inclusive andragogy in distance education, and how it was realized in practice (van Manen, 2007).

Reflections on Findings

Institutional structures and support.

Students' sense of inclusiveness was based upon having a sense of connection with the broader system and its ability to be responsive through fair and equitable use of the services. In particular, this translated into a need for alternatives for orientation, and an expectation for seamless access to courses and student support services. When services were disrupted, barriers were experienced leading to anxiety, frustration and getting behind in course work. The need for connection was important to reduce the sense of isolation experienced by distance learning for some students.

In addressing inclusive andragogy in distance education from an institutional and administrative perspective, stakeholders' perceptions of "inclusiveness" revealed exclusionary practices despite value statements in support of creating inclusiveness in the online learning environment. Traditional practices associated with entrance criteria and closed programming perpetuated the parameters that restricted access. Further, decentralization of services preserved the limited engagement experienced between programs and service departments, which created uncertainty about "who was responsible to address inclusiveness and learner variability." This was exacerbated by lack of policy and guidelines specifically addressing andragogy and accessibility in online programs and courses at the institutional and provincial level. Without a solid foundation for quality

assurance and clarity in practices, stakeholders were aware of the risks associated with the potential for a blame culture, despite everyone's best intentions. In the absence of an integrated team approach and a model for inclusiveness, stakeholders collectively recognized the need for support and training to address knowledge and service gaps connected to accessibility, online teaching, and associated support services.

Inclusive practices in postsecondary education are influenced by the larger context of society, which inherently permeate institutional philosophies and core values associated with the nature of knowledge and how it will be envisioned and ultimately translated into courses (Moore & Kearsley, 2005). As shared by one stakeholder, "I think the majority of people are somewhat naïve about it all...and why would we even want to do it." These findings are reflected in the research and practices throughout Canada and the U.S. Lack of provincial laws regarding accessibility and universality in online education contributes to the challenge experienced by postsecondary institutions, perpetuating barriers to online learning. The Accessibility for Ontarians with Disabilities Act, 2005 –o Reg. 191/11 is one of the few pieces of legislation in Canada specifying accessibility standards related to online postsecondary education (*if notification of need is given),* and where the institution is considered legally obligated under other education acts. Conformity to these standards includes observance to the web accessibility standards as specified by WCAG 2.0 level AA, "including captions (live) and audio descriptions (pre-recorded); accessibility awareness training for those who design and deliver online content and materials; accessible formats for educational

content and materials "that takes into account accessibility needs" and libraries to "provide, procure or acquire by other means an accessible or conversion ready format of print, digital or multimedia resources or materials for a person with a disability, upon request" (Service Ontario, 2011). Provincial legislation in western provinces has addressed online learning and quality assurance at the K-12 level through their respective Ministries of Education, but has yet to address the postsecondary level. Rather, postsecondary efforts to research and address quality assurance standards have been designed by provincially funded non-profit organizations such as BCcampus and eCampusAlberta; however, postsecondary institutions have not necessarily adopted these standards.

Institutions that have responded to accessibility legislation through frameworks, such as universal design for learning, have observed improved course quality, improved access to learning and information resources, an increase in course completion rates, and improved faculty attitudes towards accessible design (Bongey, 2012; Burgstahler, 2006; Coomber, 2006; & Schelly, Davies & Spooner, 2011). However, supports to variable learners studying online continue to be an area under-represented in policy (Burgstahler, 2006; Coomber, 2006; Kinash *et al,* 2004; WCET, 2013). "Sanctioned curricula in most educational institutions do not represent the experiences and interest of those outside the privileged and dominant culture" (Bernacchio et al., 2007, p. 58). Where vision for inclusiveness and accessibility is ambiguous and guiding policy is absent, barriers exist for variable learners and challenge stakeholders to design and develop accessible online courses (Burgstahler, 2006). Implementation of UDL may be difficult to adopt if

there are "differing visions of expectations, process, and outcomes; time and competing contingencies; technology fears and learning curves; and challenges in identifying and coordinating the roles/responsibilities of faculty, students and support staff" (Gradel & Edson, 2009, p 114). An integrated approach has been found most affective in adopting inclusive strategies when proactive and incremental steps are taken at the institutional and individual level (Burgstahler, 2006; May & Bridger, 2010). Betts, Cohen, Veit et al. (2013) suggest standardization of procedures across support services and programs is one action that increases accessibility by having "one stable resource for guidelines and information" for variable learners" (p. 6).

Scope of variability / awareness and training.

Students referred to the scope of their variability as it pertained to their overall experience, preferences for learning and outcomes for demonstrating knowledge. Yet, two students who identified that English was their second language described more barriers encountered with the courses than the other two students. Stakeholders provided a wider lens of cultural and learner variability, which also included their own.

Understanding the scope of variability presented challenges for stakeholders, as it was typically *unknown* in the online environment, unless students were eligible for disability supports and/or self reported a disability. If stakeholders identified learning barriers for students, it was often after the courses had begun. In addition to any visible or invisible disabilities, cultural variability was another "source of learning differences" in this study, where language and

linguistic differences collided with barriers in the online and physical environments. Learner variability inherently embodies one's culture, influencing the strategic, recognition and affective domains of learning. This ultimately shapes students' "cognitive and perceptual experiences" and how it will be conceived and demonstrated in their learning (Chita-Tegmark et al., 2012, p.18). For example, constructivist-based andragogy utilizing multiple forms of synchronous and asynchronous means for interaction can be isolating for students whose learning experiences have been shaped through non-western forms of education (Akehurst, 2012; Rutherford & Kerr, 2008). Although cultural discontinuities and learning barriers were acknowledged for deaf and hard of hearing students who use sign language in this study, many stakeholders did not explicitly address other second language learners. In a study conducted by Hockings, et al. 2008 exploring policies and practices that inform inclusivity, they concluded that "teacher contact with and knowledge of their students was essential as "their teaching beliefs and assumptions about what students do and should know, and what they can and should be able to do...leave some students under challenged, overwhelmed or disengaged" (Hockings, 2010, p. 6). Further, without knowledge of the disabling effects of the learning environment, many instructors will replicate teaching practices from the classroom to online learning environment, which do not always translate well with the availability and knowledge of the tools (Tandy & Meacham, 2009).

Relationship and trust building / interaction and social engagement.

The need for human connection and engagement was one of the key aspects of inclusiveness in the online learning environment that weaved throughout all themes. A loss of social connection was experienced as a barrier for students who feared online learning and were more familiar with traditional structures. For those more familiar with the technology, there was a sense of comfort and ease in this form of communication. Despite multiple means for interaction through synchronous and asynchronous means, barriers associated with feedback and responsiveness of peers and instructors contributed to the sense of social disengagement. Further, inequities were experienced for second language learners who could not keep up and participate to the same degree as their counterparts.

Stakeholders recounted several of the students' experiences and continued to explore effective instructional strategies that would minimize these barriers and inequities. Creating a space that engendered psychological safety while providing social oversight was a means for providing social mentorship in the online learning environment, whether the type of engagement was considered low or high stakes. These types of interactions were developed early in the student/instructor relationship to facilitate relationship and trust building. There was a sense that students' dependency was greater at the beginning of the relationship while establishing their self-efficacy in the learning environment and if using online support services. As such, faculty were required to engineer more structured

means for participation and engagement within their course. In part, the loss of using intuitive knowledge to guide social interactions contributed to these actions.

The need for social engagement and presence in online learning is well articulated in distance education literature. When the learning environment is structured effectively, active participation mediated through use of asynchronous and synchronous tools promotes deeper levels of engagement and motivation to support higher order thinking, when combined with social, cognitive and teaching presence (Aragon, 2003; Garrison, Anderson, & Archer, 2010; Hockings, 2010; Thoms & Eryilmaz, 2014). Further, establishing a sense of community and "social inclusion is vital to student development, because social and emotional well-being is directly related to resiliency, citizenship, and mental health" (Katz, 2013, p. 155).

Providing multiple options for social presence and interaction is a necessity for enhancing accessibility and inclusiveness, but foundational skills for social communication are necessary to establish the parameters for teaching and learning, while attending to cultural sensitivities and psychological dimensions (Garrison, Anderson, & Archer, 2010; Eberle & Childress, 2010). "In a physical learning environment, most norms are understood as fundamental social practices or they can be observed directly. In online learning, the norms must be explicitly taught to new participants" (Cavanaugh, 2013, p. 3). Further, the ability of an instructor to use intuitive knowledge effectively in teaching is derived from feedback and experiences generated over time. "Prior mental models are insufficient for new decision making" to address social engagement issues due to lower quality

feedback inherent in verbal and nonverbal social and behavioural cues typically experienced in a classroom (Burke & Saddler-Smith, 2006; Cavanaugh, 2013; Chita-Tegmark et al, 2012).

Establishing psychological safety is a prerequisite to higher order thinking. A reticence to interact in an online learning environment may result in self imposed barriers to learning due to fear associated with perceived negative evaluation by one's peers (Roberts & Kanagasabi, 2013). Yet, studies on hyperpersonal interactions indicate the absence of nonverbal social cues in an online environment can enhance the positive perception of socially anxious individuals more than in a face-to-face situation, as self-presentation can be selective. Individuals have time to think, edit and develop responses that engender more socially desirable aspects of themselves (High & Caplan, 2009; Okdie, Guadagno, Bernieri, Geers & Mclarney-Vesotski (2011). Despite these findings, cultural differences can impact the psychological stress encountered in the online learning environment.

Collaborative learning spaces present another challenge where abilities to communicate do not meet one's expectations surrounding required levels of performance. As revealed in this study, second language learners felt they were at a disadvantage in not being able to respond as efficiently as their counterparts. In addition to inviting a level of competition into collaborative spaces, anxiety and disappointment in one's self-efficacy were the result. Studies associated with cultural differences and online collaboration have found that students from high context cultures experience more stress and lower levels of motivation where

"contextual information is important in communication" and high levels of participation are expected in less structured instructional designs (Jung, Kudo, & Choi, 2012, ¶5).

Other barriers may be associated with attributes associated with a disability that create challenges for learning through interactive modes. For example, Madriaga et al (2007) found that "group work could cause increased anxiety in students with Asperger's syndrome who may experience difficulties with social interaction in situations involving discussion and dialogue" (Hockings, 2010, p 30). Although technology has increased social learning opportunities, lack of captioning and other communication bridges for deaf and hard-of-hearing students significantly reduce opportunities for relationship building and social engagement with peers, instructors and other online support services that are predominantly English (Burgstahler, 2006; Mercado, 2013; Parton, 2007; Tandy & Meacham, 2009). Although variability to communicate and engage in the online environment were acknowledged by students and stakeholders, there was an absence of how a group could effectively negotiate these differences to increase inclusivity, rather than overlooking them. This is a gap in knowledge that also exists in the literature, suggesting an area for further research.

Curricular accessibility.

First and foremost, students' sense of curricular accessibility was experienced through usability of the technology and perceptibility of the information. Consistency in layout and clarity of content provided the measure for accessibility, especially when diversity in instructional approaches required greater

demands on student cognition. Providing multiple means for representation of content was not always experienced as beneficial when redundancy was not coupled with other forms of engagement to promote comprehension, although a variety of formats was preferred. Creativity was required to effectively and efficiently integrate options for comprehension of content for variable learners to enhance motivation. Collaborative activities focusing on learner centred approaches were more challenging for understanding how to prioritize studying and facilitate effective engagement. This emphasized a need to support metacognitive processes while supporting cultural variability in these courses. Students revealed that formal quizzing and the demonstration of skills using videos demanded higher levels of effective feedback to assist in understanding students' comprehension and mastery over their skill sets.

Curricular accessibility from the stakeholders' perspectives reflected a complex set of skills and interactions needed from integrated team knowledge and expertise. The UDL model and application of the principles were not a formalized process in context of this study, although there were several examples of its presence in curriculum and learning resources as identified in Chapter IV. When reflecting on stakeholders' use or non-use of UDL principles, teaching diversity and associated instructional strategies were applicable to all teaching styles, despite UDL's orientation to more cognitive-constructivist approaches. In a recent study conducted with 456 undergrads and graduates by EnACT (2009), "course components that were the most essential to student learning...[included] multiple

teaching styles and modes to convey course concepts" (Gradel & Edson, 2009, p 114).

Students and stakeholders identified that metacognitive strategies for studying were instrumental in comprehension and motivation, although one student found the discrepancy in teaching styles difficult to manage. Learner centred approaches, which orient toward more collaborative learning strategies, place greater demands on student metacognition. Hence, students perform better and demonstrate better comprehension when "essential content and precise language" are presented in multiple ways regardless of subject matter or level of abstraction desired (Kings-Sears, 2009). Further, strategies to reinforce learning can be supported through multiple formats, although the appropriate tools must be selected in combination with clarity in instructions, scaffolding, feedback, and reflection to reduce barriers to learning (Deubel, 2003). Automation of feedback supports tolerance for error, but helps to further students' engagement with the content (Kings-Sears, 2009). Maier & Richter (2014) report students provided with multiple metacognitive strategies in combination with "success" response feedback perform better and are able to negotiate information that aligns with "belief consistent" and "belief inconsistent" text more effectively, in comparison to receiving failure feedback (i.e. 'incorrect') or no feedback.

Online learning environments that support equivalent materials, comprehension prompts, such as linked glossaries, translation, worked examples, accessible and relevant graphics have been shown to be "crucial in predicting reading comprehension outcomes" for second language learners as they link prior

knowledge to new knowledge (Proctor, Dalton, Grisham, 2007, p. 75; Chita-Tegmark, et al, 2012). Having these extra supports embedded early in the course design help to facilitate "self-scaffolding" behaviours (Proctor et al., 2007).

Courses that include interactive media increase communication between peers and instructors and acquisition of content (Long, et al, 2011). However, instructional activities are often designed without regard to deaf students whose primary language may not be English (Parton, 2006). "Closed captioning, real-time voice to print, C-print capability, and interpreters of online content" increase equity, but lack of conformance to web accessibility standards limit access to other service resources where videos are used (Mercado, 2013, p. 150). Video conferencing tools present another challenge where "lack of visual clarity and latency or lag time" can hinder student learning (Parton, 2006). As vision is the central means for integrating information, allocating time to the multiple inputs (instructor, PowerPoint slides, interpreter, other students) can be an overwhelming information-processing task (Long, et al 2011; Tandy & Meacham, 2009). Asynchronous communications provide "greater access to information" through text and written communication (Long, et. al, 2011). This format enables them to understand the content and respond to peers, providing extra time for reflection and construction of responses. However, there is an increase in the cognitive demands for text heavy learning environments. Should the learner have a print disability, inequities in learning are further increased (Burgstahler, 2006).

Multiple forms of assessment contribute to curricular accessibility, although objectivity in "fair and valid systems of assessment" is a consideration

for attending to learner diversity (Hockings, et al., 2010, p. 34). Quizzing continues to emerge as an area of concern where academic honesty is questioned. Although Watson & Sottile (2014) report that cheating behaviour is higher in face-to-face classes than online classes, the lack of instructional control and visible oversight attributed to distance continue to challenge stakeholders. Although technologies exist to detect plagiarism or cheating, it does not address the issue of why cheating occurs in the first place. In addition to recognizing the anxiety generated by a lack of understanding which may lead to voluntary or involuntary plagiarism, integrated approaches are necessary at all levels, inclusive of teaching and learning strategies that enable students to practice the skills prior to high stakes evaluation (East & Donnelly, 2012; Akehurst, 2012). This aligns with principles of UDL and addresses issues associated with cultural and learner variability which may be overlooked in policy and procedure development and implementation.

Technology accessibility.

Students and stakeholders were consistent in their experiences with accessibility and barriers associated with the various institutional websites and Blackboard. In a large exploratory study involving multiple stakeholders, Fichten, et al (2009) found that the "most common problem reported by all groups was the inaccessibility of websites and course learning or management systems...and course websites developed by professors, department and schools" (Bonneau, 2012, p. 116-117). The affordances of an LMS are typically underutilized due to the large learning curve and time associated with using the tools. This often results

in stakeholders designing curriculum and online resources with tools they are most comfortable using. This is further complicated by instructional choices made based upon personal preferences, learning styles, and teaching theory, without adequate knowledge about disabling features and the implications for learner variability. Time, knowledge and skill development are essential stepping-stones for those unfamiliar with equity principles and instructional design and development (LaRocco & Wilken, 2013). As Christie and Jurado (2009) suggest, "to simply transfer files on to an LMS without considering the design of the platform or the [andragogic] use of its capacity, is counter productive" and perpetuates barriers to access and learning (p. 277). The technology must be combined with effective [andragogy], which can either stand alone as UDL or stand with the technology" (Kings-Sears, 2009, p. 201).

Implications for Practice

As revealed through this study, inclusive andragogy in distance education must consider the intersection between institutional leadership and administration in relation to departmental tasks and responsibilities and how these inform practices of all stakeholders. Universal design for learning principles and guidelines suggest a viable framework for minimizing the disabling effects of the online learning environment and learning culture, yet demand scrutiny as it relates to integrated team knowledge. As such, recommendations for future practice and research include:

- Examining existing policies and procedures for inclusiveness and how these can inform quality assurance guidelines and practices for online learning for learner and cultural variability;
- Developing awareness training inclusive of UDL principles, guidelines and implementation strategies for effective instructional design and cultural competency;
- Developing student and stakeholder orientations that not only facilitate learning of technology, but also teach and model culturally competent engagement when using interactive tools.
- Examining assessment strategies for practicum, which incorporate multimedia and other forms of asynchronous or synchronous interaction.
- Examining centralized approaches for integrated team knowledge for inclusive and accessible design of courses, websites and information resources and support services.

Conclusion

In reflection of the outcomes of this study, I leave readers with a last thought which not only captures the contributions of those who elected to participate, but the ultimate purpose of why inclusive andragogy in distance education is essential from a holistic stance.

While walking along a beach, an elderly [academic] saw [people] in the distance leaning down, picking something up and throwing it into the ocean.
As he got closer, he noticed that the figures [were] that of [students and stakeholders], picking up starfish one by one and tossing each one gently back into the water.

He came closer still and called out,
"Good Morning! May I ask what you are doing?"
The [students and stakeholders] paused, looked up, and replied,
"Throwing starfish into the ocean."

The old [academic] smiled, and said,
"I must ask, then, why are you throwing starfish into the ocean?"
To this, the [students and stakeholders] replied,
"The sun is up and the tide is going out. If I don't throw them in, they'll die."

Upon hearing this, the elderly observer commented,
"But, you [students and stakeholders], do you not realize that there are miles and miles of beach and there are starfish all along every mile?
You can't possible make a difference!"

The [students and stakeholders] listened politely.
Then [each one] bent down, picked up another starfish,
threw it back into the ocean past the breaking waves and said,

*"**It made a difference for that one**"*

(Barker, 2007, Adapted from The Star Thrower)

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APPENDIX A: Invitation to Participate (Focus Group)

Athabasca University
Centre for Distance Education

Inclusive Andragogy in Distance Education: A Phenomenological Perspective
Letter of Invitation & Informed Consent for Focus Group

Dear _____,

You are invited to participate in a focus group for a research study being conducted by Sandra Polushin in partial fulfillment of a Master of Education in Distance Education degree through Athabasca University – Centre for Distance Education.

I am conducting a study regarding employees' perceptions of inclusive andragogy in distance education utilizing the principles of Universal Design for Learning (a framework for designing and implementing inclusive and accessible curriculum for all students). The purpose of the study is to explore the groups' perceptions and experiences on accessibility and inclusiveness in online courses for students with diverse learning needs who study from a distance. Specifically, the study will explore this overarching goal as it applies to the [redacted], which is delivered online across the province.

In exploring this issue from a systemic perspective, you are being asked to participate in this focus group because you are either:

- a faculty member teaching in the BI program and have a minimum of two years experience teaching online
- a Learning Support Specialist with the library
- an employee from the Centre for Students with Disabilities
- a Learning Specialist from the Centre for Education and Information Technology
- an administrator with an interest in online teaching and learning for all students

Participation is completely voluntary. There are no anticipated risks associated with your participation in the focus group; however you will be participating in a group. All participants will be asked to respect the privacy of each group member. You are free to withdraw your consent to participate and may withdraw your consent at any time throughout the study without prejudice. The focus group will be held at the [redacted] at a mutually agreeable time for approximately 90 minutes. You will be asked to participate in a half hour orientation to Universal Design for Learning, followed by a discussion where I will ask a series of questions of the group. You do not have to respond to these questions or to specific questions if you wish. At a later date, I will send you a draft copy of the discussion via [redacted] email for feedback to ensure I have accurately captured your perspective and you are comfortable with how it is represented in the draft report.

With your permission, I would like to record the discussion with a digital audio recording device for purposes of documenting and transcribing the data into written form. For purposes of maintaining privacy and confidentiality, you will be assigned a code during the focus group to remove any personally identifying information during the discussion. As the only researcher, I will be personally transcribing the audio file and field notes utilizing this code for identification purposes only. The audio file contents, field notes and transcripts will be password-protected and stored on the [redacted] server in the researcher's personal file or in a locked cabinet in the researcher's office. This data will only be accessible to the researcher. The final manuscript will not reflect any personally identifying information. Audio files and electronic files of the transcripts will be destroyed upon completion of the study by means of erasing software, which will permanently remove the files from the SD card and the researcher's computer. Any hard copies of the transcripts will be destroyed through confidential shredding provided through [redacted] after three years.

As this research involves humans, it will be carried out with oversight from the [redacted] Research Ethics Review Board and Athabasca University Research Ethics Review Board. Questions or concerns about this research may be directed to:

Dr. Tom Jones at [redacted]

For information about your rights as a participant, you may contact:

[redacted]

Or

Athabasca University

[redacted]

There are no direct benefits from participating in this study and you will not be compensated for your time. However, your participation may help to inform future planning, development and implementation of online courses, as well as provide important information about inter-departmental collaboration in designing an inclusive online learning environment for students who study at a distance. Further, as a topic understudied in postsecondary education, your participation will contribute to the literature in distance education.

If you have any questions about this research, please contact Sandra Polushin by email at [redacted]

Thank you for your consideration. I will contact you within the next week to see whether you would be interested in participating. If you would like to participate, please complete the information that follows on the next page.

Sincerely,

Sandra Polushin

To indicate your interest in participating, please check that you voluntary agree to participate in the focus group and are willing to be digitally recorded through an audio recording device. By signing this document you are giving me permission to report your responses in the final manuscript without revealing any personally identifying information. A copy of this consent form will be made available to you for your own records. Please return this letter through intercampus mail to:

☐ I voluntary agree to participate in the focus group
☐ I agree to being digitally recorded through an audio recording device during the focus group

_____ _____
Participant's Signature Date

APPENDIX B: Invitation to Participate (Student)

Athabasca University
Centre for Distance Education

Inclusive Andragogy in Distance Education: A Phenomenological Perspective
Invitation to Participate & Informed Consent for Student Interviews

You are invited to participate in an interview for a research study being conducted by Sandra Polushin in partial fulfillment for a master's thesis through Athabasca University – Centre for Distance Education.

I am conducting research regarding students' perceptions of inclusive postsecondary education in online learning environments utilizing Universal Design for Learning (a framework for designing and implementing inclusive and accessible curriculum for all students). The purpose of the study is to explore how accessibility and inclusiveness are addressed in online courses for students with diverse learning needs who study from a distance. Specifically, the study will examine this objective in the [redacted], which is delivered online across the province.

You are being asked to participate in this interview because you are enrolled in the [redacted], and have either:

- Received or are receiving accommodations or learning support in an academic setting;
- Have self-identified the presence of a learning disability or another type of disability; and/or
- Have experienced or anticipate challenges with learning in an online environment

You will be one of three students selected for this study. There are two options for participating in this interview using a questionnaire format.

Option 1: Online Questionnaire

You will be sent a link to an online questionnaire through Fluid Surveys that will take no longer than 30 minutes to answer. The questions will include selected responses and questions for open-ended responses. You have the right not to answer the questions, or selected questions.

Option 2: Phone Interview

Based upon a mutually agreeable time, I will conduct the interview over the phone for a time commitment no longer than 30 minutes. As in option one, you will have questions with selected responses and questions for open-ended responses. You have the right not to answer the questions, or selected questions. With your permission, I would like to record the discussion with a digital audio recording device for purposes of documenting and transcribing the data into written form.

For both options and at a later date, I will compile your responses and send you a draft copy to solicit your feedback to ensure I have accurately captured your perspective and you are comfortable with how it is represented.

What are the risks?

There are no anticipated risks associated with your participation in the interview. You have the right to refuse to participate without prejudice. Should you decide to participate, you are free to withdraw your consent to participate and may withdraw your consent at any time throughout the study without prejudice. Your instructors will not have access to your interview responses and will not have access to the final report until the completion of your Fall 2013 courses.

Although this research is intended to be low risk and to avoid any emotional harm, there may be unforeseen circumstances that elicit strong emotions. In this case, you are encouraged to discuss your concerns with the researchers, or you may contact the counselling services through [redacted]. Please visit the [redacted]

What about my privacy and confidentiality?

For purposes of maintaining privacy and confidentiality, all personally identifying information will be removed from all documentation and files. In the case of the online questionnaire and the phone interview, you will be asked to provide the last 4 digits of your student identification number. These digits will be assigned a code to protect your identity and personal information when the interview is transcribed onto a Word document (i.e. Student 1, Student 2, Student 3). This will allow me to reconnect with you to seek your feedback prior to completing the final report.

As the only researcher, I will be personally transcribing the audio file and field notes utilizing this code for identification purposes only. The audio file contents, field notes and transcripts will be password-protected and stored on the [redacted] server in the researcher's personal file or in a locked cabinet in the researcher's office. This data will only be accessible to the researcher. The final manuscript will not reflect any personally identifying information.

If you elect to participate in the online questionnaire, privacy and confidentiality has also been considered. Fluid Surveys Canada is hosted in Canada so your personal information remains in Canada. You will be sent a link from the researcher giving you access to the questionnaire through a password-protected site. All identifying information uses encryption for your data and is hidden. Upon completion of the study, this online questionnaire will be deleted. For more information about the security and privacy of your data, please visit http://fluidsurveys.com/ located at:

1729 Bank St. Suite 200
Ottawa, ON Canada K1V 7Z5

Audio files and electronic files of the transcripts will be destroyed upon completion of the study by means of erasing software. This will permanently remove the files from the SD card and the researchers computer. Any hard copies of the transcripts will be destroyed through confidential shredding provided through [redacted] after three years.

What are the benefits to participating?

There are no direct benefits from participating in this study during this term and you will not be compensated for your time. However, your participation will help to inform future planning, development and implementation of online courses, increasing the learning experience and accessibility for students with diverse learning needs and abilities. Further, as a topic understudied in postsecondary education, your participation will contribute to the literature in distance education.

Who do I contact if I have questions or concerns?

If you have any questions about this research, please contact Sandra Polushin at [redacted] or Dr. Tom Jones (faculty supervisor) at [redacted]

As this research involves humans, it will be carried out with oversight from the [redacted] Research Ethics Review Board and Athabasca University Research Ethics Review Board. Questions or concerns about your rights as a participant may be directed to either:

[redacted]

Athabasca University
[redacted] – Research Ethics Administrator
[redacted]

To indicate your interest in participating, please check that you voluntary agree to participate in the interview. Please indicate your preference for the type of interview. If you prefer to be interviewed by phone, please check that you are willing to be digitally recorded through an audio recording device. By signing this document you are giving me permission to report your responses anonymously in the final manuscript. A copy of this consent form will be made available to you for your own records.

☐ I voluntary agree to participate in the interview
☐ I prefer to be interviewed through the online questionnaire
☐ I prefer to be interviewed by phone at a mutually agreeable time
☐ I agree to being digitally recorded through an audio recording device during the phone interview

_____ _____
Participant's Signature Date

APPENDIX C: Focus Group Questionnaire, Protocol, and Coding Scheme

Focus Group Questions

1. What do you understand by the term "inclusive" postsecondary education?

2. What do you understand by the term inclusive online learning?

3. From your perspective, how is learner diversity addressed at the college for students who study online and from a distance?

4. What existing infrastructure and/or practices currently exist to support inclusive online curriculum?

5. From your perspective, what enhances and/or inhibits learning for students with diverse learning needs in the online learning environment?

6. What does universal design for learning (UDL) mean to you in context of online learning?

7. Depending upon your particular area of expertise, please answer the following questions in context of the online learning experience:

    a. What teaching/learning strategies are used to attend to what is being taught?
    b. What learning materials are selected to support these learning strategies?
    c. In what ways is information made accessible?
    d. In what ways is learning made accessible?
    e. Can you tell me about your experiences with how the student interacts within the online learning environment?
    f. What types of feedback systems are integrated into online curricula and the online learning environment for students?
    g. From your perspective, what are the most successful and least successful means by which a student demonstrates their knowledge in an online learning environment?

8. From your perspective, what factors might inhibit your department's readiness to create more inclusive online learning environments?

9. From your perspective, what resources and practices would enhance inclusiveness in online learning environments?

10. All things considered, is there anything else you would like to say about your experiences in supporting students with disabilities or diverse learning needs in an online learning environment?

Focus Group Protocol

1. Introduction
   - Thanks for coming
   - Group introductions & assigned code for each member
   - Time commitment
   - Distribute Demographic Questions and have participants fill out

2. Restate the purpose of the research
   Central Research Question
   What meaning do students, faculty and support staff ascribe to inclusive andragogy in distance education while utilizing the universal design for learning framework?

3. Review Guidelines
   - Participation –
     - My role as moderator and observer
     - Participants roles
   - Privacy within the group
   - Use of the digital audio recording device
   - No right or wrong answers; looking for multiple perspectives as they relate to students with disabilities or diverse learning needs in an online learning environment.

4. Open Ended Questions

5. Wrap Up and next steps
   - Thanks for participation
   - Process for feedback after discussion has been transcribed, analyzed and written up

Focus Group Protocol

Preliminary Coding Scheme – Focus Group / Interviews

Question #: e.g. What do you understand by the term inclusive online learning?		
Category Code	**Participant ID**	**Responses**
Knowledge		
Institutional support & structure		
Training & Development		
Infrastructure		
Curricular Accessibility		
Attitudes		

APPENDIX D: Student Interview Questions and Coding Scheme

ONLINE INTERVIEW: Participant Identification Code
Please enter your participant code assigned by the research assistant

Code: _____

1. My age is
   - 19 – 24
   - 25 – 29
   - 30 – 34
   - 35 and older

2. My status is

   - Married with children
   - Married with no children
   - Single with children
   - Single with no children

3. The number of fully online courses I have taken prior to the [program] are:

   - More than 5
   - 3-4
   - 1-2
   - I have not taken fully online courses before

4. If you did take online courses prior to [program], what were the outcomes?

   - I completed the course and passed
   - I completed the course and passed some of the courses
   - I withdrew from some of the courses
   - Other (please describe)

5. If you with withdrew from any of the courses, what were the reasons?

6. What prompted you to take the [program]?

7. My overall computer knowledge is best described as

   - Proficient
   - Basic
   - Below basic
   - Far below basic – I have no clue

8. I access my online courses using

    - High-speed internet
    - Cable
    - Dial up
    - Satellite

9. I access my course materials using a:
    - Desktop computer
    - Laptop
    - Tablet
    - Cell Phone
    - Other device, please list the device:

10. I participated in this survey because:
    - I have a disability (declared)
    - I have a disability (undeclared)
    - I had difficulty learning online
    - Other, please specify:

11. The nature of my disability is

    - Hearing impaired
    - Visually impaired
    - Physically impaired
    - Speech impaired
    - Learning disabled
    - Mental health
    - Other, please specify:
    - I prefer not to disclose
    - Not applicable

12. Do you require accommodations to take these courses?
    - Yes
    - No
    - Not sure
    - Other, please specify:
    - Not applicable

13. If you answered yes to question 12, what type of accommodation do you require to be successful in your online studies?

14. If you required accommodations that existed outside of the courses, please describe what and where you received these supports. (For example, study

buddy, support form the learning centre, other software not used in the program).

15. Do you require assistive technologies to take these courses?
    - Yes, they type of assistive technology I used was....
    - No
    - Not sure
    - Not applicable

16. What best describes your response to self -reporting your disability?

    - I am comfortable self-reporting and feel it is necessary for my success
    - I am comfortable self reporting but feel it is unnecessary for my success
    - I am uncomfortable self reporting but feel it is necessary for my success
    - I am uncomfortable self reporting and will not disclose
    - Other, please specify...
    - Not applicable

17. What best describes your response to self-reporting your challenges with online learning to your instructor?

    - I am comfortable self-reporting and feel it is necessary for my success
    - I am comfortable self reporting but feel it is unnecessary for my success
    - I am uncomfortable self reporting but feel it is necessary for my success
    - I am uncomfortable self reporting and will not disclose
    - Other, please specify...
    - Not applicable

18. If you answered that you were uncomfortable self-reporting a disability, OR self reporting your challenges with online learning in questions 16 and 17, what reasons contributed to your feelings of discomfort?

19. Tell me about your experiences as they relate to being part of the college community? (i.e. What benefits and/or limitations exist in the online environment that enhances or inhibits your participation in being part of the larger college community?)

20. Tell me about your experiences regarding student services and supports as a student studying online (i.e. registration, bookstore, library, tech support, centre for students with disabilities, etc?)

21. Tell me about your experiences in accessing the courses? (i.e. what was helpful and what barriers did you face?)

22. Tell me about your experiences with HOW the information is presented in BB (i.e. what was helpful and what barriers did you face?)

23. Tell me about the different ways that you were required to demonstrate your learning? (i.e. What type of activities, or graded assessments such as quizzes, essays, etc).

    Prompt:
    - What type of formats help support your learning?
    - What types of formats inhibits or challenges your learning?

24. Tell me about the different ways that activities and graded assessments either enhanced your learning, or inhibited your learning in the spaces provided below:

    - Activities that enhanced my learning....
    - Activities that inhibited my learning...
    - Assessments that enhanced my learning...
    - Assessments that inhibited my learning...
    - Additional Comments:....

25. Tell me about the components of the courses that you found most motivating and why?

26. Tell me about the components of the courses that you found least motivating, and why?

27. Tell me about your experiences with online communication between your peers and instructors? What factors supported your learning? What factors inhibited your learning?

28. Tell me about your preferred ways of learning in an online environment.

29. Please describe any aspects to online learning that have created barriers for you during your studies in the [program], as a result of the following categories. If so, please explain in the appropriate space provided.
    - Disability (Declared)
    - Disability (Undeclared)
    - English as a second language
    - Layout & navigation of courses
    - Activities and assessments
    - Type of content (PDF, video files, images, etc)
    - Technology
    - Support Services (i.e. library, tech department)
    - Instructor communication
    - Other....

30. Is there anything else you would like to share that you think is important to consider when designing and implementing an inclusive online learning environment?

Thank you very much for your participation in this interview survey. The results will be shared with the researcher who will compile the responses of all students. At a later date, you will be sent an email from the research assistant providing you with an opportunity to review and confirm the accuracy of your responses as prepared by the researcher.

Thanks again.

Preliminary Coding Scheme – Student Interviews

Question #: e.g. What do you understand by the term inclusive online learning?		
Category Code	**Participant ID**	**Responses**
Demographics		
Accommodation		
Learning Supports		
Self Reporting		
Barriers		
Community member		
Attitudes		
Web Accessibility		
Processing information		
Demonstrating knowledge		
Motivation & Interest		
Communication		

APPENDIX E: Ethics Approval

Athabasca University
Canada's Open University™

MEMORANDUM

DATE: September 10, 2013

TO: Ms. Sandra Polushin

COPY: Dr. Tom Jones (Research Supervisor)
Alice Tieulié, Acting Secretary, Athabasca University Research Ethics Board
Dr. Vive Kumar, Chair, Athabasca University Research Ethics Board

FROM: Dr. Marguerite Koole, Chair, CDE Research Ethics Review Committee

SUBJECT: **Ethics Proposal #CDE-13-07: "***Inclusive andragogy in distance education: A phenomenological perspective***"**

Thank you for providing the revised application requested by the Centre for Distance Education (CDE) Research Ethics Review Committee.

I am pleased to advise that this project has now been awarded **APPROVAL TO PROCEED**.

You may begin your research immediately.

Collegial comments: Take a little more time in your final document to review typos and spelling. You might want to reconsider the number of questions to reduce the interview length. Similarly with the focus group questions, the longer the time specified, the less likely people will want to participate.

This approval of your application will be reported to the Athabasca University Research Ethics Board (REB) at their next monthly meeting. The REB retains the right to request further information, or to revoke the interim approval, at any time.

The approval for the study "as presented" is valid for a period of one year from the date of this memo. If required, an extension must be sought in writing prior to the expiry of the existing approval. **A Final Report is to be submitted when the research project is completed.** The reporting form can be found online at http://www.athabascau.ca/research/ethics/ .

As implementation of the proposal progresses, if you need to make any significant changes or modifications, please forward this information immediately to the CDE Research Ethics Review Committee via rebsec@athabascau.ca for further review.

If you have any questions, please do not hesitate to contact the Committee Chair (above), or the Research Ethics Administrator at rebsec@athabascau.ca .

Centre for Distance Education
Research Ethics Review Committee
(A Sub-Committee of the Athabasca University Research Ethics Board)

APPENDIX F: Ethics Approval

[redacted]

[redacted]

Name, address, and email of principal researcher: Sandra Polushin, [redacted]

Name of Co-investigator(s): *N/A*

Project Title: Inclusive Andragogy in Distance Education: *A* Phenomenological Perspective

The [redacted] Research Ethics Board has reviewed your application to conduct research involving human participants. We are pleased to report that your project has been APPROVED.

REB approval for your project expires on the date shown at the bottom of this letter. You must request an extension of the project if it is not concluded by this date. Following the conclusion of the project, you have thirty (30) days to submit a final report to the REB.

You must notify the REB of any changes in the study. Any unanticipated issue that increases the level of risk to participants or has other ethical implications should be reported to the REB without delay. Major changes will require the submission of a revised request for ethical approval of the research project.

Any adverse events (research-related injuries, distress, or other harms) must be reported to the REB as soon as is practically possible.

The REB may ask to review any part of the research while it is being conducted, or after the completion of the project.

You are not required to notify us if you publish your research, but we always like to hear about it.

Please print a copy of this letter and retain it with your study records.

If you have any questions or need further assistance, please contact the Chair of the REB, [redacted]

. Good luck with your research.

Signature of REB Chair:

[redacted]

Date of letter: May 21, 2013

Expiration date for approval: May 21, 2014