Online Instructional Group Work and Learning Retention: Perceptions From The Student's Point of View

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Dedication

This thesis is dedicated to my husband for his love, patience, understanding, nurturing and motivation throughout the past five years. In high school my parents were told that I was ‘not university material.’ Completion of this degree has been a life-long personal goal.

This thesis is also dedicated to the memory of my parents who gave me the encouragement and constant reminder that I can do anything if I believe in it.

Abstract

This study investigated student perceptions of online group work on their learning retention. Data collection included the Community of Inquiries (CoI) survey expanded with Likert and open-ended questions that directly addressed the study focus. ChiSq analysis defined correlations between the Likert questions and perceived connections between online group work and learning retention. Qualitative data were analyzed with the coding template used in development of the CoI survey. The open-ended questions explored participants' perceived positive, negative and perfect online group experiences. Positive and perfect responses reported similar themes, which emphasized the importance of effective social and instructional communication within a well-designed and organized course for supporting learning retention. Negative responses included lack or dysfunction of the reported positive and perfect experiences. Participants often expressed anger and frustration when reporting negative group experiences, which included poor communication, unequal sharing of work, lack of clear instructional design and, unnecessary and outdated course materials.

Acknowledgments

I want to first thank my husband for his love, unending patience and understanding of how important the completion of this Master's Degree was for me. He has been very accommodating in more ways than can be expressed in words.

I also want to thank Dr. Cynthia Blodgett, my mentor and friend, who helped me throughout this research study. Her patience, understanding, motivation and assistance have been greatly appreciated. I want to also thank Dr. Marti Cleveland-Innes for her indulgence while I finally found the specific topic to focus on. Her insight and knowledge has been a great help.

Finally, I want to thank my high school math teacher, Mr. McIntry, who saw the potential in me and became my mentor; he showed me how to achieve a goal. He was paramount in my life after high school and my career.

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List of Abbreviations

Abbreviation	Representing
AE	Affective expression - CoI social presence sub-category
CDLP	California distance learning projects
CMC	Computer mediated communication
CoI	Communities of inquiry
CP	Cognitive presence – CoI
D&O	Design and organization - CoI teaching presence sub-category
DE	Distance education
DI	Direct instruction - CoI teaching presence sub category
EP	Emotional presence – CoI
F	Facilitation -CoI teaching presence sub-category
GC	Group cohesion - CoI social presence sub category
OC	Open communication - CoI social presence sub category
OU	Open University – United Kingdom
SP	Social presence – CoI
TP	Teaching presence – CoI

Chapter I

Groups are a vital part of human experience that offers education, relationship, and supports a need for interdependence (An & Kim, 2009; Garrison, Cleveland-Innes & Fung, 2004; Garrison, Anderson & Archer, 2000; Hausstatter & Nordkvelle, 2007; Lui, Gomez & Yen, 2009; Oren, Mioduser & Nachmias, 2002; Richardson & Swan, 2003; Romney, 1996; Smith, 2008; So, 2009; Ussher, 2007). Smith (2008) further states that group work learning situations allow the team members to share their life experiences, help each other, and develop relationships; group work is the same as teamwork. Researchers have been relatively successful in identifying the properties of successful online learning environments (Aragon, 2003; Cleveland-Innes, Garrison & Kinsel, 2007).

For decades, research has explored and investigated the role of group work in learning retention. More recently, research has explored the importance of communication, learning styles, and social presence in online education (Brewer, Klein & Mann, 2003; Garrison, et al., 2004; Liu, Gomez & Yen, 2009; Oren, et al., 2002; Sweet, 1993; University of Illinois, 2010; Ussher, 2007; Van Ryneveld, 2005; Wall, 2004). There is much less research on group instructional work for online education, and a gap in the area of how students perceive how their own learning retention as it is related to instructional group work.

Why explore the learner's perceptions of group instructional work on their personal learning retention? Designers and developers of distance education (DE) online web educational programs tend to use the current types of

technology to educate the student. Because there is little research to inform instructional design decisions, consideration of the development of these web online courses has not considered the student perceptions of what works best for them in their learning retention; basically, what the designers think will work is implemented. However, to address the student needs, the student's perceived learning tools need to be encompassed in online DE courses.

What is Group Work?

Group work can be explained as a social relationship that connects two or more individuals together for instructional purposes. Instructional group work may include online, face-to-face, or blended instruction where a course is designed with both traditional instruction and online components. These types of learning allow the opportunity of two or more students to complete required course tasks such as projects, case work, communicate together, presentations and research.

Group work takes two distinct forms: *planned* groups where students work in a pre-designated group and *emergent* groups that, "come into being relatively spontaneously where people find themselves together in the same place, or where the same collection of people gradually come to know each other through conversation and interaction over a period of time" (Cartwright & Zander, 1968, p.580).

Additionally, prominence is placed on collaborative learning which requires a common goal for a group to achieve, whereas cooperative learning uses the approach of assigning a specific task to a group (Johnson & Johnson, 2004). Group members share the process required for the task completion by assigning

mutual portions of the achievement required. Group task work is completed more frequently through cooperative approaches rather than a collaborative process (Paulus, 2005).

Skills that emerge from group work are communication, cooperation, effective work, leadership, delegation, negotiation and organization; group work will also create effective learning as well as a reduction of the student feeling alone in an online DE course (Roberts & McInnernay, 2007). One of the advantages of group work is gaining teamwork skills that will complement their skill set in the workplace. Also to be considered is the question of whether the individual is *working with* or *working in* their group. As both terms are considered to have the same meaning, Smith (2008) considers these relationships to share the same meaning.

According to a study from the University of British Columbia (UBC), group work allows skill development in personal resource, collaboration (teamwork), conflict resolution, communication, project management, and planning (UBC - nd). UBC describes the various types of strategies that are part of group work (see Figure 1). UBC also stresses the importance of effective group work that is not always that easy to accomplish; it takes a lot of work but does provide the greatest outcomes that lead to learning retention.

Up to this point, research had been provided that is positive in relationship to group work. Studies have also reported some problematic aspects of group work. Roberts and McInnernay (2007) reported the possible problems of group work and how to fix them. They suggest that there are seven key potential

problems which are (1) student hates group work, (2) group selection, (3) lack of group work skills, (4) students who do not do their fair share of work; (5) students skills or lack thereof; (6) student withdrawals, and (7) assessment of group members (p. 257).

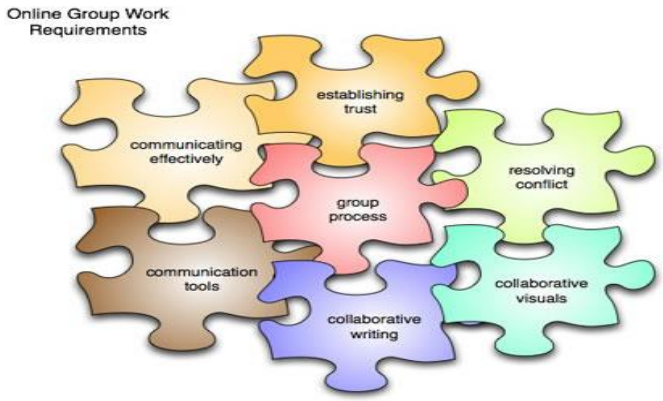

Figure 1: Online group work requirements (University of British Columbia n.d.)

Group Work: Classroom to Online

Hausstatter and Nordkvelle (2007) studied 30 post-diploma student perspectives of completing mandatory DE online group work in synchronous teaching environments: 25 students responded. The study concluded that three different types of groups were formed for communicative purposes: *administrative* – used DE online group; *social* – used only face-to-face contact; and *ideal* – used both DE online facilities and face-to-face contact. The participants commented that without communication and group work, it would be difficult to get through the course. The conclusion reached was that the participant requires many opportunities for learning that involve good communications, creativity, and motivation in learning. A fundamental

methodological strategy is the use of group work to augment learning retention; “the different abilities of the participants will benefit the learning process and the understanding of new and unknown teaching reported material” (Hausstatter & Nordkvelle, p. 106).

Johnson and Johnson, (2004) and, Haugalokken and Aakervik’s (1996) reported the necessity of student based questions which can easily be answered from a DE group member or classmate by using tutoring methods; opportunities for student learning is paramount in asynchronous learning situations. Colleges and universities need to ensure that positive technological development is included in DE that meets the student need for flexibility and that opportunities are available for social community communications that lead to learning; when one student tutors another student, the mentor (student teacher) learns twice as much as the learner. “In the theory of cooperative learning…different abilities of the participants will benefit the learning process and the understanding of new and unknown teaching material” (p. 106).

Problem Statement

For this study, group work is identified as group assignments, communications, and social presence in online distance education (Garrison, Anderson & Archer, 2000; Richardson & Swan, 2003). Learning retention, as a function of group work, has been addressed in many face to face classroom studies but there is less research on group and learning retention in online distance education. Further, there was a gap in the research on the student’s

perception of how they acquire their learning retention which is becoming clearer due to this research study.

Significance of the Study

For decades, research has explored the role of group work in learning retention (Garrison, Anderson & Archer, 2001; Garrison & Akyol, 2013). There is a relative association between social presence and group work through the common link of group work opportunities. With rapid development and implementation of online courses, research is exploring the importance of the online learning process, especially regarding student perceptions that relate to satisfaction (Fortune, Pangelinan, & Spielman, 2011; Richardson & Swan, 2003; Rubin, Fernandes, & Avgerinou, 2013). Growing attention to online groups for instruction, such as online discussion boards, conferences and graded group assignments, has become a focus for research on blended and distance education (Brewer, et al., 2003; Garrison, et al., 2004; Hausstatter & Nordkvelle, 2007; Van Ryneveld, 2005; Zawacki-Richter, Baecker, & Vogt, 2009). Inquiry is also directed toward elements of online group work that both promote and challenge learner satisfaction (Koh & Hill, 2009; Richardson & Swan, 2003; Rubin, et al., 2013). While student's perceptions of their satisfaction with online learning is beginning to garner attention (Fortune, et al., 2011; Richardson & Swan, 2003; Rubin, et al., 2013), inquiry has not yet included the voices of learners on their own perceptions of the influence of online group work on their own learning retention; this study has allowed us to hear their concerns.

Preliminary Inquiry

A college level pilot project on group work leading to learning retention in a synchronous environment (Applebaum, 2009, unpublished – see Appendix A) suggests that the level of learning retention increases when working within an assembly of two or more students. Student participants indicated that they like to be educated by lecture, visual description, and trying it by themselves. There were more participants who gained learning retention from working in a group atmosphere. On rating their learning partners, 56% felt their partner was excellent, 25% felt their team mate was very good, and 16% were good in helping the student learning the course material. This study suggests that students will learn and understand course material better when working in a group situation (Applebaum, 2009). The implication of social aspects of learning in this pilot project could suggest a similarity or consistency with the social presence aspect of current CoI online DE research.

Online Group Work and Communities of Inquiry

"Collaborative learning is a process by which small, heterogeneous, and an interdependent learner group co-construct knowledge" (Smith, 2008, p. 326). Instructional group work occurs when students work together collaboratively toward a common goal, or cooperatively by sharing tasks to complete required course tasks such as projects, presentations, and research (Romney, 1996; So, 2009). As education institutions develop online programs, course design may include group activities that serve multiple purposes in an online course. Instructional group work may include asynchronous or synchronous, online or

face-to-face, or blended instruction where a course is designed with a mix of these options (Richardson & Swan, 2003).

A need to design a comprehensive, meaningful online learning experience for students and instructors has become a priority (Koh & Hill, 2009). To meet this challenge, the CoI model was developed (Arbaugh, Cleveland-Innes, Diaz, Garrison, Ice, Richardson, & Swan, 2008). A recent innovation in a rapidly growing environment, the CoI continues to be aggressively explored (Annand, 2011; Garrison & Akyol, 2013; Lowenthal & Dunlap, 2010; Richardson & Swan, 2003; Rubin, et al., 2013). As well, voices of critique specify areas that will benefit from further interpretation and analysis (Xin, 2012).

When considering learning retention, the CoI framework addresses the process of learning through teacher presence, cognitive presence, and social presence, (Arbaugh, et al., 2008), with emotional presence emerging more recently (Cleveland-Innes & Campbell, 2012). The CoI model is based on the student experience in an online learning environment achieved through the intertwining of the four presences - social, teaching, cognitive, emotional - (Swan, Richardson, Ice, Garrison, Cleveland-Innes & Arbaugh, 2008). CoI presences are multidimensional and highly interdependent (Garrison, et al., 2000) and serve as guidelines to understand the online education experience. In this collaborative constructivist model, online communities are created as the instructor and student are actively engaged in the learning process (Rubin, et al., 2013). Arbaugh, et al., (2008) and, Richardson and Swan (2003) identified that the student's perceived learning contributes to a positive outcome. Online courses

are considered to be successful when students actively engage in individual and shared pursuit of learning (Rubin, et al., 2013).

Educational institutions and the designers/developers of DE programs require data to inform development of course material that promotes learning retention and student success (Brewer, et al., 2003; Hausstatter & Nordkvelle, 2007; Lui, et al., 2009; Park, 2009; So, 2009).

This study provides insight into the student's perceptions of their own learning retention as a result of participating in online group work.

Purpose Statement

The purpose of the study is to explore personal student perception of their learning retention as a result of participating in online instructional group work.

Research Question

What is the student's perception of their learning retention as a result of working in a group in an online distance education course? The succeeding sub-questions are:

1. *What is the student's perceived preferences (instructional design and strategy) when learning in a graduate online distance education course?*
2. *What is the perceived student learning retention when group work is a positive experience?*
3. *What is the perceived student learning retention when group work is a negative experience?*
4. *What constitutes a positive experience and a negative experience*?

Delimitations

Delimitations are those decisions that narrow the study (Creswell, 2009) and are under the control of the researcher. This study is delimited by the type of research design. The research design is a mixed mode survey that takes a "post-positivist worldview, experimental strategy of inquiry" (Creswell, 2009, p. 16) which includes specific procedures for inquiry and analysis. This inquiry is also delimited by the participants who qualify for this study who will be currently enrolled in online graduate studies at a Canadian university that offers online classes; participants also must have reached the age of majority in their respective provinces at the time of the study.

Limitations

There is a fairly large pool from which to draw participants who are engaging in online graduate distance education. Access determined and limited availability of persons who are willing and able to participate in this study. This study was limited by the nature of the sample. Because it is a convenience sample of students who are willing to complete the survey, findings were not generalizable to include those who, for whatever reason, were not willing to complete the survey; however, that does not prevent this study from being replicated. The study was also limited as to the age or DE experience of the participants by not being able to control this matter (see Figures 2 through 8).

Definitions of Terms Used

There are various terminologies and words used within the field of distance education and instruction. Definitions are intended to provide the reader with a sound understanding of the terms included in this study.

Cognitive Presence

- A triggering event, integration, resolution/application and exploration that lead to knowledge and learning retention (Arbaugh, et al, 2008).

Community of inquiry (COI)

- A worthwhile educational experience is embedded with a Community of Inquiry that is composed of teachers and students assume that learning occurs within the Community through the interaction of three core elements (Garrison, et al., 2000; Swan, et al., 2008).
- Education to support discourse and reflection in a community of inquire (Arbaugh, et al., 2008).
- The ability of participants in the Community of Inquiry to project their personal characteristics into community, thereby presenting themselves to the other participants as 'real people'…primary importance…is its function as a support for cognitive presence, indirectly facilitating the process of critical thinking (Garrison, et al., 2000) (see *'Social Presence'*).

Emotional Presence

- The human experience, feelings and reflections involved in the process of learning (Cleveland-Innes & Campbell, 2012).

Group Work

- Group assignments, communications and social presence in online distance education (Garrison, et al., 2000; Richardson & Swan, 2003).

Learning Retention

- The ability to cognitively store and retrieve new knowledge data that can be recalled at a future time.

Social Presence

- The ability of participants in CoI to project their personal characteristics into community, thereby presenting themselves to the other participants as ‘real people’…primary importance…is its function as a support for cognitive presence, indirectly facilitating the process of critical thinking (Garrison, et al., 2000).

Teaching Presence

- The facilitation, design and, to support learning, the direction of cognitive and social procedures (Swan & Ice, 2010).

Chapter II

Review of Literature

When considering learning retention, the CoI model (Garrison, et al., 2000; Arbaugh, Cleveland-Innes, Diaz, Garrison, Ice Richardson, Shea and Swan (2008); Swan, et al., 2008) addresses the process of learning through social presence, cognitive presence, and teacher presence. Within an online DE teaching environment, it is believed that to have deep learning as well as meaningful inquiries, the onus of a developed community that is influential to the learner is imperative (Swan, et al, 2008) from their personal perspective.

There is evidence that the learner's perception of social presence in an online DE course is paramount in their feeling of learning and success (Swan, Scarborough, & Robertson, 2002; Tu, 2000). Picciano (2002) completed a study on student interactivity, learning, and perceived social presence found that 42% of participants felt that if they were involved with social presence, they would learn.

The CoI study addresses the cohesions of the elements – *social presence*, *cognitive presence*, *teaching presence* (Arbaugh, Bangert & Cleveland-Innes, 2010); a 34-question survey based on a Likert scale of 0 (strongly disagree) to 4 (strongly agree) was administered in the summer of 2007. The 287 participants were at the master and doctoral level and were 20 to 57 years of age. The ordinal data results concluded that the mean ranged from 2.90 to 3.63 for the 34 questions resulted in a standard deviation of 0.66 to 1.04. Cronbach's Alpha displayed revealing data of a high inter-correlation that "leads

to internal consistencies" (Swan, et al., 2008, p. 8) with the three CoI factors (social presence, cognitive presence, teacher presence) ranging from 0.91 to 0.95. Interestingly, the highest ranking was social presence; teaching presence ranked the lowest. The findings from this study indicate the importance of an online DE course that is intergraded with the CoI model.

Applying the practical inquiry model, Diaz, Swan, Ice, and Kupczynski (2010) studied learner perceptions of the same three CoI factors with 413 undergraduate and graduate students. Findings indicated that social presence was assigned the lowest rating.

Theory

Theories that are socio-cognitive hold that learning is achieved through natural social situations and that new knowledge happens through these social experiences; "online discussion affords participants the opportunity to reflect on their classmates' contributions while creating their own" (Swan, 2003, p. 13). Group environments are easily achieved through DE. These experiences will encourage student communication which, in the end, will lead to enhanced learning (Swan, 2003).

Theories that are socio-cognitive interrelate to the process of online DE learning; these play a significant role in retention; *Situated Learning Theory* (Lave & Wenger, 1990), *Social Learning Theory* (Bandura, 1977), *Phenomenongraphy Theory* (Marton, Hounsell & Entwistle,1984), and *Conversation Theory* (Pask, 1975) speak to the type of learning found in DE (see Figure 2).

Brunner's (1996) *Constructivist theory* should also be noted as it centres on the, "…social and cultural aspects of learning," (p. 1).

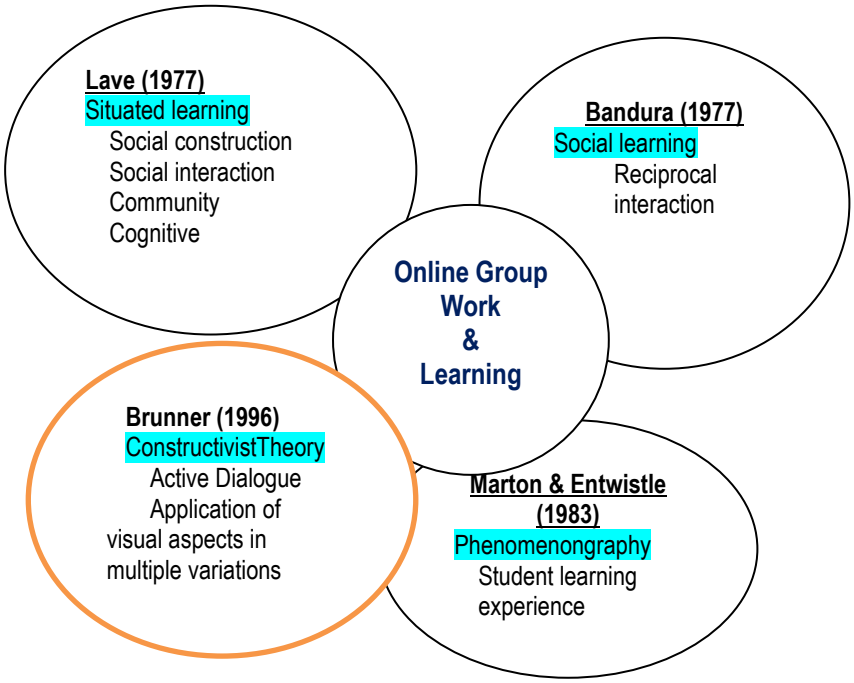

Figure 2: Psychological theories of a group learning environment

It is clear that a student's learning and retention process, in asynchronous or synchronous education situations, is highly based upon their social interactions amongst their group or classmates. Learning in DE, as an independent learner, is a standard historical practice. Today, most forms of learning require a community network that enhances learning retention.

Marton, et al., (1984) *Phenomenongraphy Theory* looks at learning by focusing, "on the experience of learning from the student's perspective and is based upon a phenomenological approach to research," (p. 1). This theory focuses on the student's learning experience and the modes of learning provided

by the facilitator and on the perspectives of the student experience of their learning; it explains the social interaction online with one or more person as the basis of their learning.

Bandura's (1977) *Social Learning Theory*, "explains the human behavior in terms of continuous reciprocal interaction between cognitive, behavioral, and environmental influences" (p. 1). This theory represents the mutual collaboration that an online student should participate in to gain their learning retention from the topics included in a course. As this embraces the CoI social presence aspects, it is relevant to this study.

Brown, Collins and Duguid's (1989) *Situated Learning Theory* holds that, "social interaction is a critical component of situated learning – learners become involved in a 'community of practice' which embodies certain beliefs and behaviors to be acquired" (p. 1). Lave and Wenger (1990) further developed this theory which emphasized cognitive apprenticeship that resulted in the belief that learning is a process of social construction of knowledge and collaborative social interaction. This theory supports the social presence of CoI which is the central focus of this research.

Group Work and Learning Retention

The importance of psychological theories is that they are related to learning and learning retention, specifically through Lave and Wenger (1990) who discusses the effect of situated learning through social construction, social interaction, community, and cognitive actions. Bandura (1977) converses about social learning through reciprocal interaction; Marton, et al., (1984) deliberate

about phenomenology through the student learning experience and, Brunner (1966) speaks of the relationship between cultural and social aspects of learning. It becomes aware that these philosophies all involve social interaction participation which forms the basic elements of group work.

Research indicates that one of the most effective instructional strategies that promotes learning retention is providing many opportunities for communication and collaboration through group work (An & Kim, 2009; Brewer, et al., 2003; ChanLin & Chan, 2010; Garrison et al., 2000; Garrison, et al., 2004; Hausstatter & Nordkvelle, 2007; Liu, et al., 2009; Oren, et al., 2002; Romney, 1996; So, 2009; Sweet; 1993, Ussher, 2007; White, 2002). Early researchers did not completely understand the connection between DE group work and learning retention (Oren, et al., 2002). Current changes in technology, the internet, and its use today have provided equipment and software that makes it easier for the student to participate in, and gain cognitive erudition retention (An & Kim, 2009). Online communities in a DE mode result in a more friendly and intensive setting than the traditional face-to-face method (An & Kim, 2009).

The learner's perception of social presence in an online DE course is paramount in their feeling of learning and success (Swan, et al., 2002; Tu, 2000). Picciano's (2002) study on student interactivity, learning, and perceived social presence found that nearly half of participants felt that if they were involved with social presence, they would learn.

Brewer, et al., (2003) studied how group interaction aided adult students who were returning to college after many years of absence. Findings suggest

that those students who worked in a community group atmosphere had enduring motivation and confidence levels that were superior to the students who worked independently. Group work enhanced their ability to learn through learning activities; enjoyable motivation from this source lead to learning retention (Brewer, et al., 2003). Further, although there was no significant difference between the students who worked in groups and those that did not, it was reported that attitudinal perspectives of adults in undergrad education re-entry programs were sharply higher for those who used group work as a means to learning. They also suggest that further research on instructional group learning be facilitated to expand on the popularity of this instructional strategy (Brewer, et al., 2003).

Implications of this study point to the advisability of including small group learning activities in higher education for adult re-entry students. While achievement was not influenced by practice condition, continuing motivation, confidence, enjoyment, and belief about ability to learn were higher for students who used the small group strategy. These, “attitudinal gains may positively support adult learners throughout the academic and social experience of completing an undergraduate degree” (Brewer et al., 2003, pgs. 16-17).

A study on student perceptions of learning in asynchronous and synchronous classroom environments was conducted wherein 156 university students completed a survey on their perceived choice of learning environment. Fortune et al., 2011 referenced an earlier study by Fortune, et al., (2006) wherein it was determined that there was no significant difference regarding student’s

choice of learning in a synchronous or asynchronous classroom; however, the face-to-face students presented different reasons why they selected this mode of learning. The asynchronous students had a reduced need for a synchronous classroom and felt more effective at learning.

The online students were contented working and asking questions in an asynchronous environment; they also noted that they shared more often than they would have in a synchronous class. These students chose online DE learning as it met their need to learn best. The synchronous students chose face-to-face learning as they thought it was going to be easier than online web courses; this choice, from their perspective, was due to a face-to-face class meeting their needs to learn best. The final assumption from this study was that, "students can learn in any type of environment and will gain new knowledge from their experience regardless of the teaching modality" (Fortune, et al., 2011, p. 7). They suggest that future studies should include the use of feedback (success rates, grades) to measure the teaching methods and the opportunities for social presence of the course facilitator.

Community of Inquiry (CoI)

When considering learning retention, the CoI model (Garrison et al., 2000; Swan, et al., 2008) addresses the process of learning through social presence, cognitive presence, and teacher presence. Arbaugh et al., 2008 state that, "consideration of socially rich technologies and the CoI learner characteristics and perceptions of social presence and investigation of the CoI framework" (p. 6) are areas of research that needs to be addressed. Within an online DE teaching

environment, it is believed that to have deep learning as well as meaningful inquiries, the onus of a developed community that is influential to the learner is imperative (Swan et al., 2008) from their personal perspective. There was an absence of research that explores what the common measures are in online DE with regards to the student's personal perspective (Swan. et.al, 2008).

Teacher presence.

"Teaching presence has been shown to be crucial in the satisfaction and success of a formal educational community of inquiry" (Arbaugh et al. 2008, p. 134). CoI teacher presence includes three components: (1) design and organization of instructional assets; (2) facilitation of discussions and interactions that contribute to learning; and (3) direct instruction through sharing information and providing expertise (Anderson, Rourke, Garrison, & Archer, 2001, p. 22). When considering learning, teaching presence facilitates the "direction of cognitive and social processes for the purpose of realizing personally meaningful and educationally worthwhile learning outcomes" (Diaz et al., 2010, p. 22). "Items rated as relatively low in presence but high in importance indicated areas where students' expectations and needs were not well met" (Annand, 2011. p. 6).

Cognitive presence.

Cognitive presence refers to the "extent to which learners are able to construct and confirm meaning through sustained reflection and discourse in an online community of inquiry" (Diaz et al., 2010, p. 23). Cognitive presence is conceptualized through the Practical Inquiry Model, a familiar outline to assess higher order thinking (Garrison, et al, 2001, p. 7). The components of this model

include: the triggering event that stimulates interest; exploration of new information; integration of the new information; and resolution in ways that can be applied to future applications or needs (Diaz et al., 2010). When considering learning, instruction designed with cognitive presence in mind embodies intellectual development through discussion, creation of meaning from facts and ideas, and reflective application results in deep higher-order thinking. “Cognitive presence is reflective of the purposeful nature of collaborative knowledge construction inherent in constructivist educational experiences” (Arbaugh et al., 2008, p. 134). Richardson and Ice (2010) report that case analysis and debates stimulated higher levels of thinking than open topic discussions.

Social presence.

Social presence is identified by the emotional and social interactions between members in an online course or group setting (Arbauch et al., 2008; Oztok & Brett, 2011), defining a sense of the degree to which any individual is perceived as ‘real’ within a group (Garrison et al., 2000; Richardson & Swan, 2003). Components that operationalize the CoI social presence category include open communication, group cohesion (trust and acknowledgement), and expression of affect with others; emotion plays an active role in satisfaction (Arbaugh et al., 2010; Oztok & Brett, 2011). When considering learning in an online group setting, these three components of social presence contribute to the social climate of the classroom (Richardson & Swan, 2003). “Social interaction is important for online group work as it can impact students’ perception of

collaboration and social presence. Social interaction plays a role in enhancing student learning and satisfaction with online courses" (Koh & Hill, 2009, p. 72).

Emotional presence.

Emotional presence has more recently emerged, and was later added to the three-presence CoI model. Cleveland-Innes and Campbell (2012) hold that emotions are a very real aspect of the learning process. "To engage in education innovation with no reference to emotion, and continue to assume learners are little more than dispassionate thinkers, would be to miss a fundamental influence on education" (p.270). As well, "[e]motional presence is the outward expression of emotion, affect, and feeling by individuals and among individuals in a community of inquiry, as they relate to and interact with the learning technology, course content, students, and the instructor" (p.283).

After the CoI instrument was validated in 2008, emotional presence was added to the three-presence model. When considering online group functions and processes, the level of trust within a group is a key consideration (Annand, 2011; Oztok & Brett, 2011; Smith, R.O., 2008). In a group drawn together for collaboration on a class project or activity, the "ability to trust thoughts that are different from their own is influenced by the learners' ability to be open about their beliefs and to develop healthy self-other relationships within their small groups" (Smith, R.O., 2008, p. 325). Group members working closely together face challenges from multiple directions, including misinterpretation of written language in the text-based environment due to lack of visual cues that are customary in face-to-face communication. Trust, a defining emotion, directly

effects interpretation in the medium of cue-less communication. Kang, Kim and Park (2009) identified three components that operationalize the CoI emotional presence: self-management, perception and expression. When considering learning, online learners show their emotion in direct relation to the organization and design issues (communication), cognitive matters (success, learning resources), social issues (communicating with others), technology, and time management (Cleveland-Innes, Garrison, & Kinsel, 2007).

From this understanding "of the dynamic interplay between emotion, behavior, cognition and the environment" (Lehman, 2006, p. 284, as cited by Cleveland-Innes & Campbell, 2012), it can then be suggested that emotional presence may consist of sub-categories that are (1) outward expression of emotion; (2) affect; and (3) feelings of individuals as they communicate with others. These three sub-categories were utilized for the emotional presence component of the analysis framework.

CoI, Communication, Groups, and Learning Retention

In terms of learning, the CoI presences are not isolated from each other, but interrelate with differing combinations and outcomes. For example, exploration of the influence of social presence on the development of cognitive presence (Oztok & Brett, 2011); the relationship between figurative language communication and the social construction of knowledge (Oztok & Brett, 2011); and interaction of both teaching and social presence components in support of group-based learning (Annand, 2011), demonstrate options being explored. Arbaugh (2008) reported that social, cognitive, and teaching presences predict

student learning; however, cognitive and teaching presence had greater influence than social presence, and that the social and teaching presences predicted satisfaction with the online medium. Annand (2011) further stated that "Items rated as relatively low in presence but high in importance indicated areas where students' expectations and needs were not well met" (p. 6). To further ground the presences in practice, Richardson and Swan (2003) illustrate the interrelationship among CoI categories in their report that "students with high overall perceptions of social presence also scored high in terms of perceived learning and perceived satisfaction with the instructor" (p. 68).

Swan et al. (2008) studied the three CoI factors with a sample of 287 master and doctoral students who were 20 to 57 years of age. Findings indicated that social presence ranked highest while teaching presence ranked the lowest. Diaz et al., (2010), on the other hand, studied the practical inquiry model and CoI factors with 413 participants from university and college undergraduate and graduate programs in the United States. Findings indicated that social presence received the lowest rating.

A mixed method study on Computer Mediated Communication (CMC) was completed by coding DE forums from a single class of 12 students (Park, 2009). Two independent coders reviewed the postings in the various forums from these participants and assigned them into several coding categories that identify the triggering event (exploration, integration, and resolution). Each of these sub-categories was further deconstructed into a detailed sub section; a sliding scale of points was awarded based on importance of the student's post. The coding

format for this study was the cognitive presence tool (Garrison et al., 2001a, 2000b, 2001). The conclusion reached was that facilitators need to constantly improve the learning outcomes for DE courses to provide 'pedagogically sound technologies'; trigger events are key to the student's learning (Park, 2009). It was additionally suggested that future research on this topic will provide much needed information on relationships of the DE student and their interaction with their classmates (Shire, 2006).

Lui, Gomez, and Yen (2009) studied the association of social presence in relationship to final grade retention among at-risk college students. Findings suggested that social presence is a major forecaster for learning retention and outcome of the student final grade for those students enrolled in online DE courses. The "odds of successful course retention was positively related to the social presence" (p. 171).

Liu, et al., (2009) also found that students who work together in groups (learning communities) have the ability to develop their communication, cognitive thinking, interpersonal negotiation, social and cooperative skills. This type of community provides a learning experience that is supportive for the group member to suggest and contribute to the discussion, ask questions and complete projects; group members can also become tutors for those students who are uncertain of topic material by receiving clarification from their group mates. A student who possesses positive social interaction perceptions that are applied to their group work will be more successful in their learning retention in an online community college.

Study of online learning retention and the student final grade (Liu, et al., 2009) concluded that the facilitator of a DE course should use group work situations to aid in the student's learning retention; "Learning communities also foster collaborative learning" (p. 172). Research based on groups being formed in asynchronous classrooms concluded that online learning supports and encourages cognitive thinking and learning retention through collaborative learning experiences (So, 2009). Research findings conclude that when social presence was at its topmost, the community level will also be at the uppermost, which was conducive to higher learning levels (Tu & McIsaacs, 2002).

The National Institute of Education, Nanyang Technological University in Singapore (So, 2009) supports inquiry into student choices for study on the decision made by the learner to form an asynchronous group. In question was how students decided to set up and implement their communication media preferences (i.e. Skype, Elluminate, email, forums, etc.). The focus was on three key elements: social presence, participation, and collaboration in asynchronous learning modes.

A computer mediated course (CMC) is considered the primary source of online contact and is especially effective to cultivate a learning atmosphere (So, 2009). This type of learning mode supports and encourages cognitive thinking and knowledge retention through collaborative learning experiences. Because of the efficiency of CMC, the online education process has no boundaries and can be used in global education environments (So, 2009). One important, clear

deduction is that to be successful in CMC, the student must be active and participate in group work from writing, reading and message sharing.

Findings suggest that without CMC in an online educational class, the student could possibly not be successful in their desire to gain learning retention and retain same for building upon or future recall (Hara, Bonk & Angeli, 2000, Dennen, 2005). The conclusion reached by this study was that the behavioural aspects of the group members (emotional, cohesive and interactive responses) were prevalent. They assisted their learning partners and encouraged the group to help complete the required task. Further research is required on the assimilation of features in an online discussion community that will foster learning retention (So, 2009).

The importance of group work and the cognitive enhancement on learning retention is expressed in research (Brewer, Klein & Mann, 2003; Lui, Gomez & Yen, 2009; Park, 2009; So, 2009; Swan, 2003) in respect to the prognostic relationship that exist between course retention, group work and the concluding grade received by a student in a community college that is available in an online DE course. The college educational online system is an excellent opportunity to create unique learning environments because of its overall flexibility, personal availability and commitments to time, life style, and employment (Muse; 2003, Summers, 2003). Over 90% of U.S. Colleges offered online education in 2001 (Wait & Lewis, 2003). “Community college online students exist in a broad social context, which can profoundly affect online learning retention…students tend to

develop supportive peer groups and find personal support via the interactions that occur within those groups" (Liu et al., 2009, p. 172).

Fortune, et al., (2011) suggest that further research be done to determine if different teaching modes impact student perceptions of their learning. So, (2009) states that "groups choose to adopt cooperative approaches to complete online group work more often than collaborative approaches" (p. 146). Their research conclusions ask for further discoveries in the areas of social interactivity and group work environments that lead to learning retention.

Evolution of Distance Education

Literature supports data as far back as 1840 from the beginning of formal DE when this mode of education was solely correspondence (Williamson, Feb. 11, 2009). When DE was in its infancy in the late 1800s at the University of Chicago, education was delivered by correspondence. In 1890, William Rainey Harper was an educator who was trying to offer other ways to educate at a distance for those people with minimal financial resource who were not part of the elite. These changes, "offended the elitist and extremely undemocratic educational system that characterized the early years in this country" (Pittman, 1993, p. 1). When radio was further developed in World War 1 and the event of television (1950's), new venues for education at a distance were created. In 1982, correspondence education was re-coined as distance education by the International Council for Distance Education (Association for Educational Communications and Technology, 2001). The first fully accredited online institution was created in 1996 at the Jones International University; "Distance

education has evolved to cover multiple subjects from medicine to engineering and art…online education has continued to evolve…is likely to serve an increasingly important role in education around the world" (Williamson, 2009, p. 4).

Open University of the United Kingdom.

Open University (OU) of the United Kingdom opened in 1970 and has become one of the largest and most successful DE institutions with 160,000 students taking courses in 1997. This university serves Great Britain, Eastern and Western Europe, Ethiopia, Singapore, and Hong Kong. The idea came from Harold Wilson (a member of parliament) for this form of learning. It began in 1964 when Jennie Lee, then Minister for the Arts, was assigned this planning task. In 1966, Lee set up the first advisory committee for OU and in 1967 the Cabinet approved the plan. The first students began applying to OU in 1970; 1971 the first classes commenced. In 1980, OU had 70,000 students with 6,000 students graduating each year. More program majors were offered in the 1990's for undergrad and post grad programs; they celebrated their 200,000th student graduation in 1998. In 2010, the Economic and Social Research Council praised OU as being the model of future education.

Coastline Community College.

In the United States, it was not until the 1970's that a California task forces was established to see if DE learning would be profitable. A new institution, Coastline Community College, was established to handle the development and filming for telecourses. Computers were added as part of the DE tools in the

1970's when IBM developed a system called *Course Writer*. This software was implemented by Coastline and used in 17 different courses including those offered at the University of Alberta from 1968-1980 (Williamson, 2009).

California Distance Learning Projects.

California Distance Learning Projects (*CDLP*) presented findings that were consistent with those posited by Williamson (2009) but included more details in certain areas. CDLP findings suggest that the first users of distance learning correspondence, through the mid-19th century, were women who were restricted from entering learning institutions open only to men, people who worked during the day and could not attend school, physical disability students, and students who lived in remote locations where no established schools were available. In 1926, the National Home Study Council addressed the problems of ethics and quality in DE; accreditation was under the National University Extension Association (1915) who was responsible to give permission to colleges and universities who met the standards in their DE programs to operate. CDLP adds the fact that the United States military uses DE as one form of learning and training. California adult schools provided English as a second language, career training education in a short term, basic adult education, parent education, and GED preparation.

Two studies were conducted by CDLP; video, study packets and workbooks were the most desired methods of learning with text as the second choice. Activities were the third choice with audio and computer as the fourth. It is interesting to note that online learning ranked lower than computer use as

learning modes. This study noted that activities, as a form of learning, ranks higher than computer and online learning.

The growth of DE for California adult learners in 2003-2004, CDLP notes that, “there will be a slow increase of Internet centered instruction as teachers become more comfortable with the curricula and management systems and as more course length curricula become available” (California Distance Learning Project, 2006, p. 6).

Review of the educational institutions from the history of Distance Education (Open University of the United Kingdom, Coastline Community College, and California Distance Learning Projects) reveal that they all shared a common goal to provide learners, outside of the traditional classroom, effective methods of learning that would substitute for face-to-face learning between the student and the teacher, as well as between the student and classmates. In the past, learning from a distance was done as a sole learner and their learning materials (manuals, textbook, etc.).

Research Summary

“Social interaction is a critical component of situated learning – learners become involved in a ‘community of practice’ which embodies certain beliefs and behaviours to be acquired” (Lave & Wenger, 1990, Situated Learning Theory, p. 1). As mentioned previously, Marton, et al., (1984) state:

> Our task is thus to describe more clearly how learning takes place in higher education and to point out how teaching and assessment affect the quality of learning. From these descriptions teachers should be able to

> draw their own lessons about how to facilitate their student's learning. (p. 1)

Brewer et al., (2003) concluded that group work situations in online DE provide enduring motivation and confidence levels that are superior to the independent student, and that group work enhances the learning retention for DE online students.

It is important that literature supports the purpose and reason for a research study. There are six categories that previous research studies have requested further investigation and study. These categories are:

- *The need for further research into group environments that lead to learning retention* (Liu, et al., 2009; Oren, et al., 2002; Park, 2009; Quon, 2006; Richardson & Swan, 2003; So, 2008; Ussher, 2007; Van Ryneveid, 2005; Weaver, 2001)
- *The need for group work atmospheres* (Brewer et al. 2003; Hausstatter & Nordkvelle, 2007; Liu, et al., 2009; Oren, et al., 2002; Park, 2009; Quon, 2006; Romney, 1996; So, 2008; Ussher, 2007; Van Ryneveid, 2005; Weaver, 2001)
- *The need for social communication in DE* (Brewer et al. 2003; Hausstatter & Nordkvelle, 2007; Oren, et al., 2002; Park, 2009; So, 2009; Ussher, 2007)
- *The need for a sense of community* (Brewer et al. 2003; Hausstatter & Nordkvelle, 2007; Liu, et al., 2009; Oren, et al., 2002; Park, 2009; Quon,

2006; Richardson & Swan, 2003; So, 2009; Ussher, 2007; Van Ryneveld, 2005; Weaver, 2001)

- *The importance of learning* (Brewer et al. 2003; Hausstatter & Nordkvelle, 2007; Liu, et al., 2009; Oren, et al., (2002); Park (2009); Quon (2006); Richardson & Swan (2003); Romney (1996); So (2009); Ussher (2007); Van Ryneveld (2005); Weaver (2001)
- *Importance of the teacher's involvement and participation in an online DE course that contributes to learning retention* (Oren, et al., 2002; Park, 2009; Quon, 2006; Richardson & Swan, 2003; Romney, 1996; Ussher, 2007; Van Ryneveld, 2005)

Despite extensive scholarly research, what have not been explored are student perceptions of group work and their own learning; this represents a gap in online DE learning research.

Chapter III

Methodology

Research Design

Data was collected by means of a Likert survey with three open ended questions. The survey included the Community of Inquiry survey with emotional presence questions added. These were supplemented with Likert questions created by the researcher, including two ‘baseline’ questions that specifically addressed the research question, and three open-ended questions.

Use of both quantitative and qualitative methods better addressed the research questions. Creswell and Plano Clark (2007) identify that data collected by open versus closed ended surveys speaks to the data rather than the method of collection. They further state that surveys traditionally used as a quantitative source of data could also be associated with qualitative data by including questions that require text responses. This method of data collection falls into what Creswell (2009) defines as *gray areas:* “types of mixed methods studies that might conform to part of our definition, but not all of it, we call the gray areas” (p.12). Creswell further outlined four examples of research that comprise the ‘gray area’ of mixed methods research (p. 12-13):

- A study employing minimum qualitative research
- A content analysis study
- Multi-method research, different from mixed methods research because it uses multiple quantitative or qualitative data sets
- Mixed worldviews

Ethics

Before commencing with this study, the ethics board of the participant university granted permission to complete the research project (see Appendix B). The consent forms signed by each participant outlined ethical requirements for conducting research within the university (see Appendix C).

Upon return of the consent forms, participants were given the required information to access the survey (see Appendix D) along with a unique number, known only to the researcher. The researcher was the only person who knew the name and email of each participant that were stored manually; this information was shredded after the study was completed. The participants' personal data were kept totally confidential; reference to any individual participant was acknowledged by using a number that was different than the one assigned when being set up to participate. Each participant had the choice to participate or not as well as withdraw at any time if they choice to do so. They were not forced to answer the questions; therefore, responses were at the participant's own discretion. This research study was designed to not cause any harm to the participants.

Participants

Participants were a self-selected convenience sample of graduate students currently enrolled in an online Master degree course or program at a Canadian university. In an online class, they had participated in instructional group work. Participants were both female and male adults who were 20 to greater than 50 years of age. English was the first language for most.

Preliminary Inquiry

An exploratory study investigated college level learners' perceptions of their own learning retention as a result of involvement in classroom-based, synchronous group work (Applebaum, 2009, unpublished). Findings suggest that the level of learning retention increases when working within a small group of two or more students. Quality of the interaction between or among group members influenced these participants in terms of satisfaction and perceived learning. When asked to rate their learning partners, more than 90% of the participants reported that their partners were good, very good, or excellent with helping to learn the course material. This inquiry suggests that students learn and understand course material better when working in a group situation, but that satisfaction with their partner is associated with perceptions of learning. To relate the Applebaum study in online context, Koh and Hill (2009), suggest that the social presence aspect of group work as a social system allows members to develop relationships while they share experiences, and help and support each other in the online learning environment.

Instrument

The 60 question survey was created in Zoomerang survey software (see Appendix E).The instrument collected three data sets: demographic, survey, and open-ended responses. The demographic data provided the age, gender, number of online DE courses taken prior to current enrollment, if English is their first language, and the frequency of participation in online DE communications. It

also asked if the participant had experienced an online group work assignment environment where marks were awarded.

The survey included the CoI survey (Arbaugh et al., 2008; Richardson & Swan, 2008), expanded with the six emotional presence questions (Cleveland-Innes & Campbell, 2012) and 10 supplementary questions created by the researcher (see Appendix F).

The three open-ended questions asked participants to describe a positive and a negative online group work experience, and to describe what they perceived to be a perfect learning situation in an online course.

Data Collection

A general email was sent to all of the Master of Education students with the invitation to volunteer to be a participant in this student's thesis research study. The introduction letter explained the purpose of the study, privacy and confidentiality, and how the data would be used. Those learners who were interested in participating returned an email stating their intention to complete the survey. In reply, each participant was sent an independent student number as well as the link to the survey in Zoomerang.

As participants completed the surveys, data was collected in Zoomerang. Data was downloaded into a spreadsheet and prepared for analysis.

Validity and Authenticity

Internal validity is an approximate truth about causal relationships, or ensuring that what was done in a study caused what was observed; it addresses the extent to which bias is minimized. Internal validity was addressed through the

use of other authors` textbooks, journal articles and personal discussions with faculty that focus on the study.

To increase validity and reduce the likelihood of researcher bias in the analysis of the qualitative data, a coding template was compiled from definitions and keywords previously developed by researchers who validated the CoI survey (Arbauch et al., 2008; Cleveland-Innes & Campbell, 2012; Garrison et al., 2000).

Face validity is the extent to which a study is viewed as covering the concept it purports to measure. To check the validity of the wording of the supplementary questions developed by the researcher, the questions were presented to a post-degree synchronous class at a Canadian college. The intent was to gain feedback regarding whether the choice of wording used in the survey was understandable and that the questions would produce the desired result.

External validity refers to the extent to which the results of research are generalizable. In this study, the validated CoI survey with the emotional presence questions were used for data collection, supplemented by researcher's questions that had been subjected to face validity measures.

Treatment of the Data

Likert data.

Survey data was analyzed with descriptive statistical analysis. The ordinal Likert data was numerically coded, then analyzed with the Chi Square test. The data was regrouped to combine the Strongly Disagree and Disagree responses together; likewise, the Strongly Agree and Agree responses were grouped

together. This resulted with three sets of responses – Disagree (2), Neutral (3), and Agree (4).

There were two baseline questions created by the researcher that spoke directly to the research questions:

8) I feel that I learn more when I am in a group of two or more people (hereafter referred to as question 8), and

57) I was able to learn very well because of the group work activities online (hereafter referred to as question 57).

Question 8 asked for attitudes toward group work and learning; question 57 narrowed the inquiry by adding *online*. These two questions were used for the Chi Square test to analyze the remainder of the survey questions.

Responses to the complete set of questions with each presence were also analyzed with the baseline questions.

Open-ended questions data.

All of the individual comments were transcribed verbatim into a table format, one table for each question. Each comment was then coded (see Appendix G) and analyzed to determine the participant's perceptions of a positive, negative and perfect online DE learning experience.

Chapter IV

Data Analysis

The Likert and open ended questions were analyzed separately. First, the demographic data was counted and is displayed in figures (3 to 8) that following. The open ended questions were coded according to the indicators in the coding framework and produced data in the form of participant comments. Data were analyzed for themes, frequencies, and relevant quotes. The Likert questions produced ordinal data that were analyzed with nonparametric statistics and the ChiSq analysis for goodness of fit.

Demographic Data

Participants were 41% male and 59% female. Ages ranged from 20 to over 50 years of age, with the latter comprising 53% of all participants. English was the first language for 84% leaving 16% speaking English as a second language.

In terms of distance education experience, 59% had taken 6 or more courses, while 3% were enrolled in their first course. Participants reported that they communicated within a course from 13% (once per week) to 34% (five or more) times per week, and 97% had participated in a group assignment project that was graded.

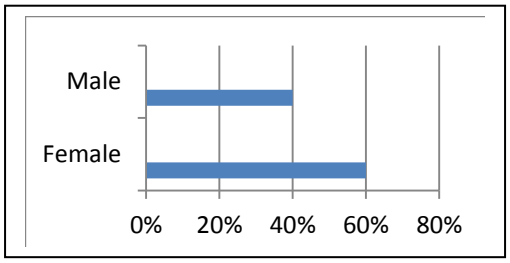

Figure 3.

Participants' gender

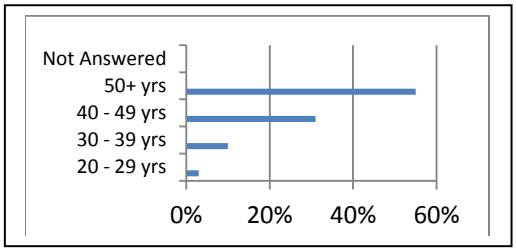

Figure 4.

Participants' age bracket

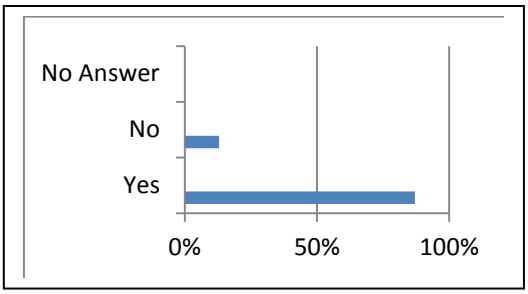

Figure 5.

Participants' for whom English is first language

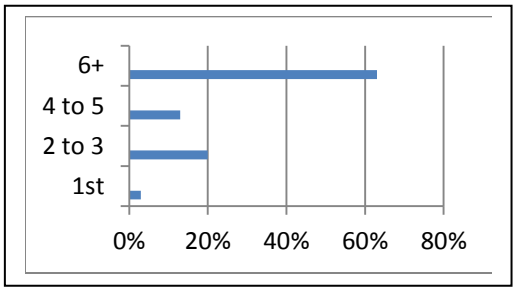

Figure 6.

Participants' number of DE courses

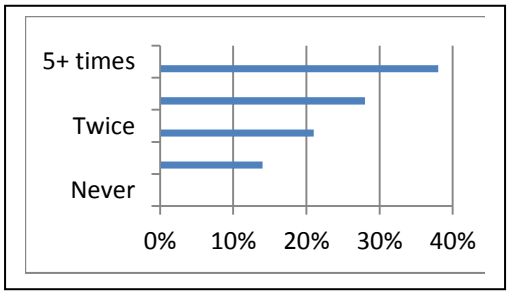

Figure 7.

Participants' communication per week

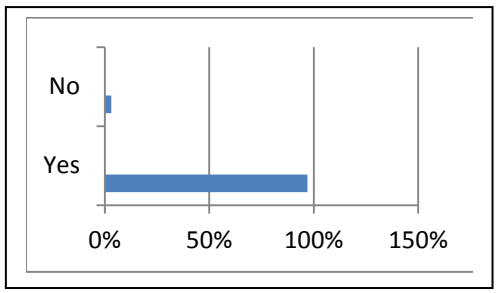

Figure 8.

Participants who have experienced a graded group assignment

Qualitative Data Analysis

The data provided by the three open ended questions was analyzed in two phases. The first phase was to determine which presence was related to the participant's comments. The second phase associated sub-categories with the corresponding statement.

Positive Online Group Learning Experience

Question 58 - What is [your] perceived participant's learning retention when group work is a positive experience?

This question explored the personal perception of a positive learning experience (see Appendix H). Coding frequencies indicate that positive experiences are influenced by all four CoI presences. Specific details of frequencies for positive experiences are noted in Table 18.

Social presence – positive experience.

Social presence comments were identified primarily as action between students with a stronger interpersonal feel, even for those comments that could also be coded in another presence. Table 1 illustrates themes that emerged from participants' statements that fit with social presence definitions. Examples of statements that highlight positive experiences that facilitate learning retention that are grounded in social presence include:

> We were like-minded individuals with a common goal – to learn.
>
> The friendships developed were an added bonus to the learning experience.

> … group members came from different cultural backgrounds, different time zones, etc., and knew very little about each other; completing such a task at a distance is an amazing feat.

Table 1.

Positive group work experiences: Social presence

Social presence sub-categories	Total frequency	Themes
	34	
Group cohesion		- Communication and forum discussions
		- Collaboration/group work
Open communication		- Doing tasks on time
		- Feedback from classmates
		- Making friends and work/study partners
Affective expression		- Peer reviews

Teaching presence – positive experience.

Teaching presence comments focused mainly on strategies and actions directed from teachers and curriculum towards students. Table 2 illustrates themes that emerged that fit with teaching presence definitions. Examples of statements that highlight positive group experiences that facilitate learning retention that are grounded in teaching presence include:

> … discussion created a positive experience.
>
> Motivation seems to be a key factor at play.
>
> There was tremendous feedback that added immediate value.
> … a peer-review activity where I had to submit my work to a peer and, in turn, evaluate her work according to the assignment requirements.

Table 2.

Positive group work experiences: teaching presence

Teaching presence sub-categories	Total frequency	Themes
	18	
Design & organization		- Feedback - Group diversity - Instructor led discussions
Direct instruction		- Marks - Quality assignments
Facilitation		- Rewards

Cognitive presence – positive experience.

Cognitive presence statements tapped into perceptions of elements that support learning. Table 3 illustrates themes that emerged from participants' statements that fit with cognitive presence definitions.

Table 3.

Positive group work experiences: cognitive presence

Cognitive presence sub-categories	Total frequency	Themes
	38	
Trigger event		- Ability to recall - Influence learning
Exploration		- Integrate - Points of view
Integration		- Working effectively
Resolution		

Examples of statements that highlight positive group experiences that facilitate learning retention that are grounded in cognitive presence include:

> … I do remember what a brilliant experience that collaboration was and how I want to ensure that I encourage that in any groups I'm part of as well as in groups that I facilitate.

> After agreeing to the division of labour and tasks, reviews were performed …. points of view were explained and when agreement was achieved, these comments were included.
>
> … my learning and ability to recall in that the lessons learned were very profound, even if only in a metacognitive way.

Emotional presence – positive experience.

Emotional presence comments drew from internal interpretations of group work experiences. Table 4 illustrates themes that emerged from participants' statements that fit with emotional presence definitions. Examples of statements that highlight positive emotional presence experiences that facilitate learning retention include:

> When positive emotion is involved, I am present. When I am present, I retain.
>
> …reflecting back … I cannot help but smile.

Table 4.

Positive group work experiences: emotional presence

Emotional presence sub-categories	Total frequency	Themes
	13	
Outward expression		- Being present
		- Happy
Affect		- Personal reflection
		- Perspective
Feelings		- Positive experience
		- Procrastination
		- Stimulation

Negative Online Group Learning Experience

Question 59: What is [your] perceived participant's learning retention when group work is a negative experience?

This question explored the personal perception of a negative learning experience (see Appendix I). As with the positive perspective question, negative experiences are influenced by all four CoI presences. Specific details of frequencies for negative experiences are noted in Table 19.

Social presence – negative experience.

Table 5 illustrates themes that emerged from participants' statements that fit with social presence definitions. Examples of statements that highlight negative experiences grounded in social presence include:

> One other than myself did extensive work and another contributed but failed to do the one thing he had promised. The fourth did next to nothing.
>
> ...students are forced to write a document together.
>
> ...trying to get people to do the work.

Table 5.

Negative group work experiences: social presence

Social presence sub-categories	Total frequency	Themes
	62	
Group cohesion		- Different points of view - Disrespect to other students
Open communication		- Group members in other time zones - Poor group work/collaboration - Lower grades from weak students
Affective expression		- Non-participating group members - Poor communication/discussion forums - Unfair/unequal sharing of work

Teaching presence – negative experience.

Table 6 illustrates themes that emerged from participants' statements that fit with teaching presence definitions. Examples of statements that highlight negative experiences grounded in teaching presence includes:

> We did not get to choose the topic – we were assigned to it.
>
> …the instructor was not present – did not facilitate, guide or answer questions.

Table 6.

Negative group work experiences: teaching presence

Teaching presence sub-categories	Total frequency	Themes
	22	
Design & organization		- Bad teacher feedback - Non-active teacher - No motivation
Direct instruction		- No teacher contact - No guidance
Facilitation		- Unclear instructions

Cognitive presence – negative experience.

Table 7 illustrates themes that emerged from participants' statements that fit with cognitive presence definitions. Examples of statements that highlight negative experiences grounded in cognitive presence include:

> These [negative] experiences have really colored my learning in a negative way. Will I recall the learning – probably not.
>
> I did learn what I needed to learn. I still recall what I learned. Even though the group experience did not work that well I had to do the work so I learned.

Table 7.

Negative group work experiences: cognitive presence

Cognitive presence sub-categories	Total frequency	Themes
	27	
Trigger event		- Bad group members - Forced participation
Exploration		- Independent learner - Learning retention
Integration		- Learn more from experience
Resolution		

Emotional presence – negative experience.

Table 8 illustrates themes that emerged from participants' statements that fit with emotional presence definitions.

Table 8.

Negative group work experiences: emotional presence

Emotional presence sub-Categories	Total frequency	Themes
	25	
Outward expressions		- Anxiety - Frustration - No feeling of belonging
Affect		- Poor manners - Poor ethics
Feelings of individual		- Recall negative feelings from experience

Examples of statements that highlight negative experiences grounded in emotional presence include:

> I cannot think of a positive group work experience in an online distance education course. I found group work very frustrating.

Group work has been a source of frustration and negative learning for me. I ended up doing most of the project. I found it stressful.

Perfect Online Group Learning Experience

Question 60 - What is [your] perceived perfect online learning situation in an online distance education course/program?

This question explored participants' perception of the characteristics of a perfect online learning environment (see Appendix J). Again, participants expressed perceptions that draw from all four CoI presences. Specific details of frequencies for perfect online group learning experiences are noted in Table 20.

Social presence – perfect experience.

Table 9 illustrates themes that emerged from participants' statements that fit with social presence definitions.

Table 9.

Perfect group work experiences: social presence

Social presence sub-categories	Total frequency	Themes
	93	
Group cohesion		- Agreement - Communication/forum discussions
Open communication		- Group work/collaboration - Group work with independent study - Peer reviews
Affective expression		- Testing of learning retention

Examples of statements that highlight a perfect experiences grounded in social presence include:

> ...discuss topics informally on a regular basis.
>
> ...group work enhance[s] learning.
>
> ...I would like to collaborate with others...group work for certain assignments.

Teaching presence – perfect experience.

Table 10 illustrates themes that emerged from participants' statements that fit with teaching presence definitions.

Table 10.

Perfect group work experiences: teaching presence

Teaching presence sub-categories	Total frequency	Themes
	135	
Design & organization		- Communication with instructor - Clear instructions - Create real life virtually
Direct instruction		- Current material/text - Instructor participates - Learning from peers, instructor
Facilitation		- Manageable course work - Motivating - Research activities - Resolve conflicts - Share ideas - Timely feedback from instructor - Tutor time - Variety of technology

Examples of statements that highlight a perfect experiences grounded in teaching presence include:

> ...involve reasoned discourse around meaningful ideas which lead to publicly useful knowledge.

...blend of individual work and group work.

...professor who is clearly engaged and passionate.

...be involved - not bystanders.

Cognitive presence – perfect experience.

Table 11 illustrates comments that fit with cognitive presence definitions. The data illustrates related statements that demonstrate a range of perceptions.

Table 11.

Perfect group work experiences: cognitive presence

Cognitive presence sub-categories	Total frequency	Themes
	10	
Trigger event		- Brainstorming
		- Seeking new information
Exploration		- Testing of knowledge
Integration		
Resolution		

Examples of statements that highlight a perfect experience grounded in cognitive presence include:

…more feedback.
…massive contribution of content, interactivity and many different opinions would certainly constitute fertile ground for learning.

…employing a variety of learning strategies to help generate the most.

…comprehensive learning possible.

Emotional presence – perfect experience.

Table 12 illustrates comments that fit with emotional presence definitions. Themes that emerged from participants' demonstrate a range of perceptions. Examples of statements that highlight a perfect experience grounded in emotional presence include:

> ...forums where we can contribute to the knowledge of the group
>
> ...enjoy accessing supplementary material and learning from answers to questions posed by other students.
>
> When I am autonomous, I am empowered to learn.

Table 12.

Perfect group work experiences: emotional presence

Emotional presence - sub-categories	Total frequency	Themes
	17	
Outward expression		- Motivation - Personal point of views - Peer review
Affect		- Reflection
Feelings of individual		

Summary

This portion of the data analysis covered participant comments collected for positive, negative, and perfect group work learning experiences. Examples of comments from the transcripts were included for each presence, as well as a

table with the sub-categories, frequencies, and themes from participants' responses.

For the overall results of the CoI presences, Figures 9, 10 and 11 illustrate comparisons between each comment for each presence by frequencies of statements that fit with the coding indicators.

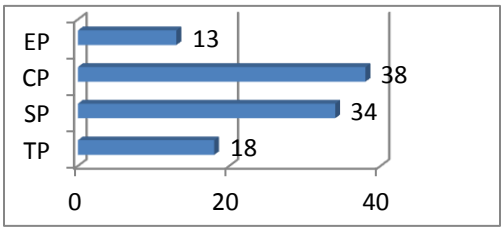

Figure 9. Overall positive experiences

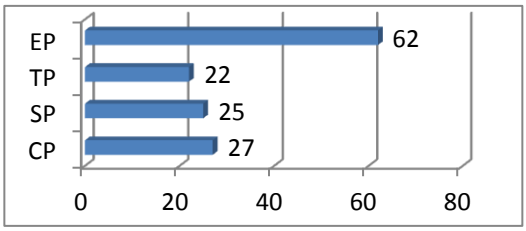

Figure 10. Overall negative experiences

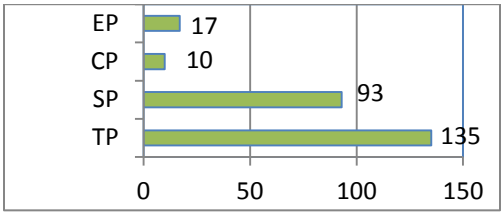

Figure 11. Overall perfect experiences

To gain an insight to the role that all four presences play in online DE courses, a view of all the presences, in total, from the data collected is displayed in Table 13.

Table 13.

Total frequency by presence

Question	Social	Teaching	Cognitive	Emotional
Positive experience	34	18	38	13
Negative experience	62	22	27	25
Perfect experience	93	135	10	17
Total frequencies	189	175	75	55

This data expresses the participant's preference to having social presence through communication, interaction, and group work along with a well-designed

course (current materials) and an affective instructor. This data suggests that participants in this study consider both social and teaching presences are the strongest contributors for their online DE group work and learning retention.

Quantitative data analysis

Null hypothesis

For analysis of the quantitative data, the hypothesis is indicated here.

Null hypothesis: There is no relationship between online group work and perceived learning retention.

Alternative hypothesis: There is a relationship between online group work and perceived learning retention.

Comparison Questions

Question 8 was the first of the Likert questions following the seven demographic questions; question 57 was the last before the three short answer questions. Question 8 explores group work in a general manner whereas question 57 is directed specifically to online group work. These two questions were used for the ChiSq analysis as they were the only ones that speak directly to group work and learning retention.

Procedures

Questions were first analyzed individually for mean and standard deviation. Survey questions, with the exception of the demographic and questions 8 and 57, were sorted by CoI presence and sub-presence. Each group was analyzed for mean, standard deviation, and Chi Square, appropriate to determine significance of ordinal data, using Excel software. Questions 8 and 57

were tested with each other first. Interestingly, at 0.05, the ChiSq result was 0.843, failing to reject the null hypothesis. As a result, all groups of data were analyzed with both questions 8 and 57.

Teaching Presence

Survey questions for teaching presence sub-categories include:

Design and organization.

- Q9 The instructor clearly communicated important course topics.
- Q40 The instructor clearly communicated important course goals.
- Q31 The instructor provided clear instructions on how to participate in course learning activities.
- Q38 The instructor clearly communicated important due dates/time frames for learning activities.

Facilitation.

- Q18 The instructor was helpful in identifying areas of agreement and disagreement on course topics that helped me to learn.
- Q45 The instructor was helpful in guiding the class towards understanding course topics in a way that helped me clarify my thinking.
- Q30 The instructor helped to keep course participants engaged and participating in productive dialogue.
- Q24 The instructor helped keep the course participants on task in a way that helped me learn.

Direct instruction.

- Q34 The instructor helped to focus discussion on relevant issues in a way that helped me to learn.
- Q17 The instructor provided feedback that helped me understand my strengths and weaknesses relative to the course's goals and objectives.
- Q10 The instructor provided feedback in a timely fashion.

Table 14 illustrates the mean, SD, and ChiSq statistics for all three teaching presence sub-categories. Each sub-category was analyzed with both questions 8 and 57; all six options reject the null hypothesis.

Table 14

Teaching presence ChiSq analysis by sub-category.

Teaching presence	Group Mean	Group SD	ChiSq
Design and organization	4.11	0.85	
Question 8			0.002
Question 57			0.000
Facilitation	3.78	0.90	
Question 8			0.031
Question 57			0.001
Direct instruction	3.96	0.83	
Question 8			0.019
Question 57			0.003
Teaching presence total			
Question 8			0.001
Question 57			8.147

For this data, the ChiSq analysis for teaching presence sub-categories indicates that teaching presence has an effect on learners' perception that there is a relationship between online group work and learning retention. The group mean and SD appear very similar with less than one deviation. The mean for teaching presence is 3.95, very close to the Likert score of 4 (*Agree*). These

results suggest that the participants perceive that all teaching presence sub-categories – *design and organization*, *facilitation*, and *direct instruction* – have an effect on their learning retention resulting from online group work.

Teaching presence as a whole does reject the null hypothesis for question 8 (0.0048), whereas question 57(8.147) fails to reject.

Social Presence

Survey questions for social presence sub-categories include:

Affective expression.

- Q32 Getting to know other course participants gave me a sense of belonging in the course.
- Q39 I was able to form distinct impressions of some course participants.
- Q36 Online or web-based communication is an excellent medium for social interaction.

Open communication/interactive behaviors.

- Q37 I felt comfortable conversing through the online medium.
- Q42 I felt comfortable participating in course discussions.
- Q21 I felt comfortable interacting with other course participants.

Group cohesion.

- Q19 I felt comfortable disagreeing with other course participants while still maintaining a sense of trust.
- Q23 I felt that my point of view was acknowledged by other course participants.

- Q44 Online discussions help me to develop a sense of collaboration.

Table 15 illustrates that the ChiSq statistics for four of the six sets reject the null hypothesis; *group cohesion* analysis with question 8 fails to reject the null hypothesis at 0.05, but is significant at 0.06. *Affective expression* rejects the null hypothesis for both questions 8 and 57. *Open communication/interactive behaviors* analysis with question 8 fails to reject the null hypothesis; conversely analysis with question 57 rejects the null hypothesis.

For this data, participants perceive that there is a relationship between *affective expression* and learning retention and online group work, while relationships with *open communication/interactive behaviour* and *group cohesion* are mixed.

Table 15

Social presence ChiSq analysis by sub-category.

Social presence	Group Mean	Group SD	ChiSq 0.05
Affective expression	4.07	0.82	
Question 8			0.003
Question 57			0.000
Open communication / interactive behaviors	4.27	0.77	
Question 8			0.000
Question 57			1.20
Group cohesion	3.91	0.92	
Question 8			0.057
Question 57			0.012
Social presence total			
Question 8			.0000
Question 57			1.060

Social presence, as a whole, rejects the null hypothesis for question 8 (0.000) but fails to reject the null hypothesis for question 57(1.060).

Cognitive presence

Survey questions for cognitive presence sub-category include:

Trigger event.

- Q35 Problems posed increased my interest in course issues.
- Q26 Course activities piqued my curiosity.
- Q27 I felt motivated to explore content related questions.

Exploration.

- Q25 I utilized a variety of information sources to explore problems posed in this course.
- Q20 Brainstorming and finding relevant information helped me resolve content related questions.
- Q11 Online discussions were valuable in helping me appreciate different perspectives.

Integration.

- Q14 Combining new information helped me answer questions raised in course activities.
- Q22 Learning activities helped me construct explanations/solutions.
- Q15 Reflections on course content and discussions helped me understand fundamental concepts in this class.

Resolution.

- Q29 I can describe ways to test and apply the knowledge created in this course.

- Q43 I have developed solutions to course problems that can be applied in practice.
- Q33 I can apply the knowledge created in this course to my work or other non-class related activities.

Table 16 illustrates that the ChiSq statistics for the cognitive sub-presences are inconsistent. *Trigger event* analysis with questions 8 and 57 both reject the null hypothesis, whereas both tests for *exploration* fail to reject the null hypothesis. *Integration* and *resolution* are both mixed.

Table 16

Cognitive presence ChiSq analysis by sub-category.

Cognitive presence	Group Mean	Group SD	ChiSq
Trigger event	3.95	0.79	
Question 8			0.007
Question 57			0.001
Exploration	4.06	0.74	
Question 8			2.69
Question 57			1.839
Integration	4.09	0.76	
Question 8			0.000
Question 57			7.081
Resolution	4.24	0.59	
Question 8			5.819
Question 57			0.015
Cognitive presence total			
Question 8			3.935
Question 57			2.169

This data suggests that participants' perceive a relationship between *trigger events* and learning retention; *exploration* bears no relationship; while *integration* and *resolution* relationships with group work and learning retention

vary. Cognitive presence as a whole fails to reject the null hypothesis for question 8 (3.935) and question 57(2.169) fails to reject.

Emotional Presence

Survey questions for emotional sub-category include:

Outward expression.

- Q12 The instructor acknowledged emotion expressed by students.
- Q47 The instructor demonstrated emotion in online presentations and/or discussions.

Affect.

- Q41 Expressing emotion in relation to expressing ideas was acceptable in this course.
- Q46 Emotion was expressed when connecting with other students.

Feelings.

- Q16 I felt comfortable expressing emotion through the online medium.
- Q49 I found myself responding emotionally about ideas or learning activities in the course.

Table 17 illustrates results of the ChiSq analysis; only one of the three sub-categories, *affect*, rejects the null hypothesis, while *outward expression* and *feelings* failed to reject the null hypothesis with both questions 8 and 57. This data suggests that for both of the comparison questions, the participants consider that there is a relationship between emotional presence sub-presence

affect, online group work and learning retention but not with *outward expression* or *feelings*.

Table 17

Emotional presence ChiSq Analysis by sub-category.

Emotional presence	Group Mean	Group SD	ChiSq
Outward expression	3.41	0.85	
Question 8			0.229
Question 57			0.074
Affect	3.70	0.69	
Question 8			0.012
Question 57			0.001
Feelings	3.48	1.02	
Question 8			0.923
Question 57			0.065
Emotional presence total			
Question 8			0.326
Question 57			0.064

Emotional presence, as a whole, fails to reject the null hypothesis for question 8 (0.326) whereas question 57(0.064) fails to reject.

Supplemental Questions

Finally, the supplemental questions included for this study (10 including the comparison questions) fit the definitions and indicators for social presence and cognitive presence. Social presence questions were:

- Q48 Doing online group work assignments is only a way to socialize with other classmates.
- Q51 Having mandatory participation in group work or discussion forums is a waste of my time.

- Q54 My interest in learning has increased because of group work in an online distance education course.
- Q55 I do not need interaction amongst my classmates to learn.
- Q56 Frequent online chat forums in distance education are an effective way for me to learn.

Results for negative questions (48, 51, 52, and 55) were reversed. As one of the comparison questions, question 8 was not included in analysis of the social presence group.

The supplemental questions that fit with definitions and indicators for cognitive presence were:

- Q50 I like to learn by myself.
- Q52 I find it difficult to learn in an online distance education course.
- Q53 I feel that how I like to learn impacts my long term learning.

Negative question 52 was reversed. Again, as one of the comparison questions, question 57 was not included in analysis of the cognitive presence group.

With this set of data, the supplemental cognitive presence group of questions reject the null hypothesis for both questions 8 and 57. These questions calculated together produced the following ChiSq results:

Question 8	0.037 reject the null hypothesis at 0.05
Question 57	0.005 reject the null hypothesis at 0.05

ChiSq Analysis of Supplemental Questions

As part of the statistical analysis, each presence and their sub-category had the ChiSq calculated. The sub-categories had several question from the CoI survey; calculations were completed by using the data from each question collectively to determine ChiSq for each sub-category and as overall as the presence. This data was then compared to question 8 and 57 independently to determine if it would reject or fail to reject the null hypothesis.

Teaching presence of all sub-categories, independently, rejects the null hypothesis; however, when this data is compressed to represent this presence, question 8 rejects and question 57 fails to reject the null hypothesis. Social presence sub categories, independently, have different results. *Affective expression* and *group cohesion* both reject the null hypothesis whereas *open communication* rejects for question 8 but fails to reject for question 57. The total overall results for social presence saw question 8 reject and question 57 fail to reject the null hypothesis.

Cognitive presence of all sub-categories, independently, displayed that out of the four sub-categories, question 8 rejected the null hypothesis for *trigger event* and *integration* and question 57 also rejected for *trigger event* and *resolution*; the remainder of the questions all failed to reject the null hypothesis. The emotional presence of all of the six questions (when compared to questions 8 and 57) failed to reject and, the researcher's question, which were broken into social presence and cognitive presence had mixed outcomes; social presence both failed to reject and those classified as cognitive both rejected the null hypothesis.

Conclusion

In this chapter, data from three open ended questions and the Likert scale questions were presented and analyzed. Data from the three qualitative open-ended questions were analyzed with the coding template. Participant responses to each of these questions were presented in a table format by presence, sub-presence, and frequency with an example from the participants' comments. The Likert data was treated with the ChiSq test. Results from both the qualitative and statistical analyses will be examined in the next chapter.

Chapter V

Findings and Discussion

To this point, the research questions have been illustrated with portions of comments applicable to each question. Participant comments were broken apart due to the multi-faceted content; many comments reflected a rich mix of positive, negative, perfect, experiential, learning, social, teaching, cognitive, or emotional perceptions. (see Appendixes H, I, and J for the full transcripts). This chapter will examine both the comments and the ChiSq findings.

Perceptions of Online Group Work and Learning Retention

The research question directing this study asks:

What is the student's perception of their learning retention as a result of working in a group in an online distance education course?

The CoI framework was utilized to pursue this question. To understand the CoI presences, how they intertwine amongst each other, and the effect they have on learning, it is important to recognize each presence and its role in the learning process. The interwoven nature of the presences in relation to learning retention is currently being explored. For example, social presence includes an emotional aspect (Arbaugh, 2008; Oztok & Brett, 2011). Emotional presence influences learner satisfaction (Arbaugh, et al., 2010; Oztok & Brett, 2011). Social presence also includes the development of cognitive presence; social presence includes teaching presence as it is the predictor for satisfaction (Oztok & Brett, 2011; Annand, 2011). Social, cognitive and teaching presences predict the level of student learning but only cognitive and teaching presence influence social

presence (Arbaugh, et.al, 2008). Aykol and Garrison, et al., (2010) noted that there is not a significant relationship with social presence, making it the least important effect of all; however, Koh and Hill (2009) view social presence as an imperative aspect towards allowing the learner to develop, share and help support group members in their learning process. Richardson and Swan (2003) agree that students who have high perceptions of social presence also have perceived satisfaction of their instructor. Akyol, Garrison and Mitchell, (2010) also found significant relationships between both teaching and cognitive presence and perceived learning, but not with social presence.

This study moves the conversation into online distance education. The intertwining of the presences and subsequent connection with the learning process became evident when participants, given the opportunity to express their own perspectives on their online DE learning experiences and subsequent learning retention, responded by sharing experiences grouped with statements of learning that mixed the four presences along with positive, negative and perfect experiences, often within the same comments.

Positive learning experience.

What is the perceived student learning retention when group work is a positive experience?

Positive social presence experiences are mentioned more frequently as supporting the group learning process than cognitive or emotional presences. Comments that related to *group cohesion* and *communication* as facilitating learning retention were the most frequent. Teaching presence supported learning

retention, specifically the *design and organization* of a course and *direct instruction* from the facilitator. Emotional and cognitive presences were mentioned with only cognitive presence's *trigger event* showing no comments. The following examples of positive experiences that encourage learning retention highlight the intertwining of the four presences.

> I have completed the course work for the MDE program and in reflecting back on the group work undertaken in this program, I cannot help but smile. The friendships developed were an added bonus to the learning experience. The quality of the assignments and the level of marks achieved were also great rewards to the group assignment experience.
>
> I was part of a strong 4-member work group. Our task was to perform a systems analysis for an existing DE learning program. The most challenging part of the assignment was to develop a … situation analysis. In the first go-around, each team member developed his or her own draft …. The result was four very different visions – but each one having a number of valuable ideas that were not captured in the others. Then, step by step, we worked to integrate the best ideas into a single [product] that we were all happy with. We found this a valuable learning experience that underlined the importance of collaboration in reaching a solution that greatly improved on the initial inputs. My recall of this project has definitely been enhanced by the positive experience – and by the graphic (i.e. visual) nature of the inputs and products. What I remember the most is the effective process that we employed to reach what turned out to be a very good solution
>
> I worked on a paper with two other people from different walks of life. I learned a lot from them and felt I had things to contribute from my perspective. We were able to use each other's strengths and compensate for each other's weaknesses to come up with a great final product. I learned about the topic but also learned about working effectively with others. The application of learning will help me apply it to other real life instances more readily.
>
> I had a positive group work project in MDE604. My partner and I had the same work ethic, similar personalities and interests, similar work

> conditions, etc. We actually went on to be study buddies later in the course. Yes, I believe a positive experience increases engagement, interest, and in turn, learning. Yes, I feel that recalling learning from a positive experience is very likely.

Negative learning experience.

What is the perceived student learning retention when group work is a negative experience?

Negative learning experiences noted the lack of social presence with all three sub-categories. Issues had to do with communication difficulties, language differences, time zone problems and lack of time management with work that needed to be performed. Comments relating to teaching presence are that the instructor was not available or was absent. Other contributors to a negative experience included having to work in dysfunctional groups where there was little or no participation by group members resulting in one or two group members doing all of the work. These comments also fit with social presence and emotional presence; negative experience and learning experience comments mixed the downfalls of group work with emotional responses to group members on both a scholastic and personal basis. Students who preferred to be solitary found group work to be a negative experience; however, those comments did not include statements of their learning retention.

Participants' statements about their negative learning experience often evoked, and paired with, strong emotional statements of stress and frustration. Examples for a negative learning experience include:

> This was a larger group and it was perceived that the work was not shared equally. We had some connectivity issues, scheduling problems, and

> other conflicts. I look back at this and remember the “issues” rather than the learning. I can recall my part of the assignment, but do not have a good grasp of what the others contributed. Rather than being collaborative, I feel my work was just a spoke in a wheel that I never got to see roll down the road.
>
> For me, group work has been…a source of frustration and negative learning for me. In group experiences so far my fellow group members procrastinate to the final moment and leave me feeling very anxious about the work we are trying to accomplish. Despite my best efforts to find classmates who do not leave things to the end, or work late into the early hours of the morning…I have not been that fortunate. At the graduate level, I dislike having my grades tied to the efforts of others. Not being one to sound like a whiner, I am not willing to bring these behaviours to the attention of the Professor – this is after all – graduate level. My learning from these experiences is to cringe when I see group work as part of grading scheme for a course, this includes discussion forums where you MUST participate even if you have nothing of value to say. I also feel that the ‘you must post twice and respond twice’ grading of discussion forum/group exercises diminish the value of discussion. The net result of this extreme emphasis on group work and discussion forum grading has been to have me consider taking my studies elsewhere. With the program at the University of Ontario (http://www.uoit.ca) they are up front that interaction is in the form of weekly webinars – a format I find more appealing than the forced interaction of discussion groups and group work with those who prefer to work at the last minute…or not at all.

Perfect learning experience.

What is the perceived perfect learning situation in an online distance education course? Explain why this environment helps you to learn.

Participants were more specific with their comments about their perfect learning experience. Comments fit primarily into two of the CoI presences - teaching presence and social presence

Common themes included course materials and time management. Teacher involvement was another theme with comments that revealed preferences for active and involved instructors as well as feedback and response to messages within 24 hours. It was interesting to note that participants differed in their preferences for the presence of a teacher, from “involved” to “kept at arm’s length,” especially in the forum discussions.

Social presence themes that emerged included a mix of group cohesion and communication; this was the optimal environment. Interestingly, comments did not include *affective expressions* such as compliments, salutation, use of humor, or expressing appreciation; several students also requested to pick their own group members. There were several comments regarding having only positive online DE learning experiences. This is in direct contrast to the single participant who wanted no contact at all; however, some participants agreed that they accept or enjoy working with others as well as independently. Cognitive presence reflected that the trigger event is somewhat important and the emotional presence sub-categories of feelings and outward expression were also included as relevant to online group work and learning retention.

Examples include:

> What I look for in an online learning experience is a dynamic mix of complementary learning activities: provocative readings; relevant case studies; active online discussion centered on interesting questions; reference to current events/developing situations in the “real world” that are related to the course; the opportunity for real-time interaction with fellow classmates (e.g. in synchronous learning events; Skype calls), work group activities focused on a challenging task; and frequent synchronous or asynchronous interaction with the instructor and/or subject matter

experts. For me, much of the value arises from the contributions of mature classmates (people already in the work world) who have experiences of their own to share.

All online courses that I have taken have been very positive (except where the instructor was not involved). The only element that could be added would be additional time to prepare for weekly materials or materials provided in advance.

A combination of group work and solo work with clear expectations and timelines communicated by the instructor. As much as I hate to say this, big challenging assignments forces one to get the reading done early in order to hit deadlines. Clear, concise, detailed explanations of what is to be submitted are an enormous help. This clear communication helps me learn by my not having to waste learning time trying to figure out what is required of an assignment or group work.

Divergent Statements

What constitutes a positive experience and a negative experience?

The interwoven nature of some of the comments represented both positive and negative responses within each query. The following comments illustrate a range of perspectives including positive, negative, pragmatic or other perceptions of what influenced their learning retention.

Group work.

Give me the assignments, the expectations and let me do it.

Partnering with people helped me to navigate new information, check with others, and collaborate in a way that supported my learning. I like the support, especially in my first course when learning online was new. I will be able to recall that learning because I was an equal part in the process.

I have taken at least 10 online courses (between Athabasca and Guelph) and the majority of discussion created a positive experience. We were like minded individuals with a common goal – to learn.

My experience with most courses is that the participants are looking for someone else to do the work. I would prefer to do my own work and discuss that with the instructor.

Collaboration.

Negative group work is when students are forced to write a document together. Working together to generate ideas to enhance learning works.

It was myself and one other student (of my choosing!). It was positive because we were well matched in learning style, personality, goals and standards. I remember every detail of that assignment and carry that learning with me today. It was successful because we were equally matched, challenged each other to do better, worked on a topic of our choosing and were, in a sense, autonomous – the two of us!

I was in a group once where we all found it really difficult to get going on the project. We ended up throwing it together a week before it was due. It wasn't a really bad experience more a lesson in what not to do. The end result was actually pretty good but the process was difficult and stressful.

I like to learn on my own: then apply my knowledge in a paired situation. Too many cooks spoil the broth. Too many cooks and I end up becoming project manager, a role that detracts from learning. I like to pick my collaborator, and my topic. When I am autonomous, I am empowered to learn. I learn best with someone who can challenge me, and who I can relate to on a personal level. It is a true collaboration that way and the learning superior as a result.

I recently participated in a group project where we all completely agreed and everyone worked really well together. We had excellent conversations about the topic at hand and my experience in the group helped me clarify my own understanding. I also feel that this group project helped me broaden my understanding.

Within the same assignment, both students had differing views of the application of APA to the writings. Ownership of various sections of the paper was constantly re-edited. The final paper did lose marks as APA was not consistently applied.

Group members.

I had a great group experience in MDDE610 with four great ladies. We met every week to discuss the learning activities, comments, and feedback. I learned a lot from this forum but others are not as genuine as this particular group.

Yes, recalling a course group activity, I remember that I learned many important things due to my colleagues' professional background.

In many group assignments, only one negative experience comes to mind and that involved a group member who felt that she was an expert and the rest of us were not. This individual continually talked down to the other and kept trying to force her ideas upon the rest of the group. However, the assignment turned out well and the experience was not unlike other situations in work and family.

My most negative group work experience involved a student quitting the group, another student completing his assignment without group consultation and difficulties connecting with members. An experience which was supposed to be collaborative became individual. I cannot even recall the goal of the assignment but I can remember the participants and their lack of cooperation

Instructor.

Discussion forums, asynchronous classes and group work enhance learning in online DE courses. The instructor's presence is fundamental to keep learners on tract, to facilitate learning and to resolve doubts or conflicts.

A negative work experience was when I took a difficult online course where the instructor was not present – did not facilitate, guide or answer questions. My peers attempted to work through and sort through the complicated materials.

Also in my last course I found the instructor's assignment marking and communication inconsistent and lacked constructive criticism. I found this a distraction to learning. In my research methods course the instructor was excellent. She engaged with each student in the discussion form and

emails. She was clear in her instructions, assignment marking feedback and brought a sense of community to the class. This helped to enhance learning. Please note – the comments made in the previous section reflect my most recent course, not the research methods course.

On line learning was a positive experience in my life. I was lucky enough to cross paths with some distinguished and certainly talented professors/tutors who were able to create a real life feel virtually (felt like an actual class). Also the ability to communicate with tutors re: an assignment, questions and so on…was extremely beneficial and hopefully AU can increase their tutorial phone hours.

Marks.

Group work in one situation, meant trying to get people to do the work. Waiting until the late people get around to doing the work. Being saddled with group members who will not get the kind of marks I expect and yet my grade is lowered because I was forced to be in a group.

I had low marks than all my other assignments I did alone, because this group member will not incorporate any suggestions.

There is no perfect situation but I think there should be marks for participation in the online forums. It will help to get everyone involved and provide different perspectives in learning.

Instructional activities and learning.

The most positive experience for me was a peer-review activity where I had to submit my work to a peer and, in turn, evaluate her work according to the assignment requirements. This experience certainly influenced my learning and ability to recall in that the lessons learned were very profound, even if only in a metacognitive way.

My overall experience with the M.Ed. program has been so-so with the exception of a few instructors the majority have been a real disappointment. The guidelines for some courses were very unclear and I felt very frustrated with the whole experience. These experiences have really colored my learning in a negative way. Will I recall the learning – probably not.

Instructor led discussions were very helpful – especially the one in the thesis writing course where the professor had the group thinking about their future and expectations of the thesis. There was tremendous feedback that added immediate value.

Negative experience, positive learning.

A negative experience was when I was in a slightly dysfunctional group with some members not ‘pulling their weight’ in the activity. I feel that this influenced my learning positively because I had to do more work to get the job done. I think it negatively influenced the laggards ‘learning’ while it positively influenced their grade.

Working with a group of two other people, where one did participate in the report writing very often but when they did their writing was verging on plagiarism. A negative experience does not negate learning; it is still occurring, possibility more so because the two of us did the work.

There were 4 members of which one other than myself did extensive work and another contributed but failed to do the one thing he had promised. The fourth did next to nothing. Learning is more obvious from negative experience because change must be made. However, positive experience is every bit as valuable and often unheeded. I am not talking behavioral psych here but everyday ingenuous learning which includes all forms of communication.

Occasionally, group participants were not participatory. Or, they were late in posting their thoughts or their portion of an assignment. This, of course, was a negative experience in that one non-participatory person’s place in the virtual classroom could have been taken by someone participatory who would have contributed something of value for others to learn from. There is something to learn from all experiences in life. So, while a non-participatory classmate may not help to learn course curricula, they can help in learning how to deal with non-participatory people!

My partner was unavoidably out of reach by internet. I ended up doing most of the project. I would have started earlier if I was doing it on my own. I found it stressful but I pulled it off and I did learn what I needed to

learn. I still recall what I learned. Even though the group experience did not work that well I had to do the work so I learned.

Emotional perception.

I cannot think of a positive group work experience in an online distance education course. I found group work very frustrating and am unable to answer this question.

It was a debate, UGH, my group was too large. One person was in Norway, the other in England. English was a second language for the former. We did not get to choose the topic – we were assigned to it. We did not have similar standards with respect to writing and I hated every minute of that. The result was a poor product for certain. Over the long term, I can hardly remember what our arguments 'for' were…and remember even less of the arguments our opponents provided 'against'.

I facilitated a weekly online study group using Skype and Mikogo in each of my courses. I and the participants found it very enjoyable and useful from a learning and collaborative perspective. We shared ideas and clarified concepts.

Summary

CoI and open-ended questions asked different questions but were coded to each other's criteria. They were analyzed in such a way that the open-ended questions were qualitatively coded with the CoI coding template, while the survey questions were analyzed for significance of relationships with two baseline questions specific to online group work and learning retention.

Questions

Open-ended data questions asked directly and participants answered directly. Questions allowed opportunity for participants to *give voice* to their thoughts and concerns – their perceptions – of positive, negative, and learning

experiences. The CoI Likert survey presented participants with the validated questions about the four presences and sub-categories; most of the survey questions were not directly related to the focus of the research question.

Analysis

Analysis of the open-ended data questions was tied to the CoI by means of the coding template. Frequencies demonstrated predominance of the different codes identified by the template indicators. ChiSq analysis measured significant correlation between two other researcher-developed ‘baseline’ questions and the remaining 48 CoI questions. Survey analysis with the two baseline questions provided data regarding how the presences fit with the research questions of this study.

Results

Results of the open-ended question data (coded by the CoI coding template) were tallied by frequency and grouped with the appropriate question – positive, negative, or perfect learning experience. Results of the ChiSq analysis presented the significance, or lack thereof, of the relationships between the CoI presences and each of the two baseline questions having significant relationships with online group learning and learning retention, understanding that the ChiSq analysis can calculate significance and strength of a relationship but not cause.

Considering how this data was analyzed, with CoI guiding the qualitative coding and the baseline questions guiding the ChiSq analysis, the findings can

be discussed together; however, there is no clear, definitive method to merge the two sets of findings. It appears, however, that while the ChiSq can predict a significant relationship but not the cause, the participants' comments, themselves, can direct the direction of the cause, whether positive, negative, or perfect learning experiences. Therefore, relationships that are discussed may be considered reasonable, not measureable.

Cognitive Presence.

One consideration of the designation of significance is how it must be translated. For example, cognitive presence shows no significance between either question 8 (group work) or question 57 (online group work) with learning retention. However, the sub-categories report differently, with *trigger event* reporting significance, *exploration* not, and *integration* and *resolution* reporting both significance and no significance. If taken separately, the sub-categories appear to report either a relationship or no relationship between online group work and learning retention. It is reasonable to interpret cognitive presence analysis of no significance as stemming from the varying reports from the sub-categories, thus rendering the cognitive presence analysis of no significance in agreement with participant's statements.

On the other hand, each of the sub-categories reports differently, so another interpretation may be that while we assume that participants answered question 8 as online group work rather than just group work, participants, themselves, may consider that there is a significant difference between question 8 and 57 and learning retention, thus not supporting the cognitive presence of no

significance. In both scenarios, returning to the original qualitative data guides a final decision.

Social Presence.

Social presence reports significance with question 8 but no significance with question 57. The sub-presences, again, are a mix of significant and not significant. These findings are unusual, however, because ChiSq finds that sub-category *affective expression* has a significant effect on online group work and learning retention. This may support one of the findings from the social presence analysis because a low frequency of participant's comments having to do with this sub-category.

On the other hand, *open communication/interactive behaviour* also show both significance and no significance with questions 8 and 57. Participants' comments do not appear to be in agreement with either the social presence or this sub-category's findings because of a higher frequency of positive learning experiences (25), lower negative learning experiences (15), and a very high frequency including this sub-presence in participants' perceived perfect learning experience (54). It appears that participants made a strong statement that was contrary to the ChiSq findings.

The *group cohesion* sub-category reported a very low frequency (3) for a positive learning experience as being related to online group work and learning experience, with negative receiving a high frequency (44), and being included in a perfect learning experience also receiving a high frequency (39).

At first examination, these frequencies appear to report that group work experiences were rarely a positive experience and that would support one presence question and the opposite sub-category. The high negative frequency appears to indicate simply that group learning experiences were negative; again, face value appears accurate; yet the 39 reports of including group work in a perfect learning experience contradicts the frequencies of high negative and very low positive comments.

Review of the original data for the open-ended questions revealed an interesting, and relevant phenomenon. The low positive and high negative frequencies did not report simply that participants didn't prefer group experiences; they reported that group experiences were almost universally negative because of group dysfunction, that is, other group members did not participate as required, expected, or needed; participants made some very pointed comments to this effect. This can be interpreted as if all group members were fully engaged in a group learning experience - if *group cohesion* was strong it is reasonable to expect that the positive and perfect learning experiences would greatly increase.

The ChiSq reports that question 57 reported significance, and that question 8 would be significant at 0.06 suggesting significance for *group cohesion* that supports participants' emphatic statements of not being unhappy with group work, but being dissatisfied, and some greatly so, with other group members.

Teaching Presence.

Teaching presence ChiSq analysis reports a mix of significant and not significant for questions 8 and 57. This is in contrast to the three sub-categories that all report significance. All three sub-categories report lower frequencies for positive and negative learning experiences, but much greater frequencies for being included in a perfect learning experience.

Participants reported that *design and organization* is instrumental in their learning retention, reporting that poor design and organization results in a negative learning experience, but that well done design and organization influences learning retention in a positive manner. Participants also included *design and organization* in a perfect learning experience with the highest frequency of all sub-categories in all presences (82).

Facilitation by the instructor is about equally positive and negative influence on learning retention but with lower frequency. Review of original data revealed that a positive experience refers to presence of facilitation and negative refers to lack of facilitation, not that facilitation was an experience that did not support learning retention. This is supported by the high number of comments that include facilitation as a component of a perfect learning experience (28).

ChiSq calculation indicates that *direct instruction* is related to learning retention for both questions 8 and 57. This is consistent with participant comments that report that few comments included direct instruction as either a positive (2) or negative (5) influence; however, direct instruction was included as a preferred component in a perfect learning experience (25).

Emotional Presence.

The emotional presence findings for ChiSq reveal not being significant for either question 8 or 57. This is consistent with sub-categories *outward expression* and *feelings of individual*, but not consistent with the *affect* sub-category. Interpretation of the meaning of *significance* is worth consideration with *affect*, which reports that there is a significant relationship between *affect*, group work and learning retention. In this case, it appears that *affect* is significant in its lack of comments from participants in all three learning experiences – positive, negative, and perfect. This is an example of significance meaning that there is a consistent lack of influence of group work on learning retention.

At first glance, it seems curious that *feelings of individual* reported no significance. Review of the original data revealed that the negative comments (17) were related to personal feelings, commonly associated with negative experiences in other sub-categories, more than twice the frequencies for positive and perfect, but with only a few comments related feelings to learning. Therefore, it appears reasonable to conclude that there is, indeed, agreement between the ChiSq finding and participants' comments.

Overall, ChiSq results were inconsistent on the presence level and, with the sub-categories, were both in agreement and not when compared with participants' comments on their perceptions of a positive, negative, and perfect learning experience.

Strengths and Weaknesses

One of the strengths of this mixed approach to the data is that the ChiSq analysis, appropriate for ordinal data, produces significant or not significant results. It does not indicate cause; however, the participants' comments regarding their positive, negative and perfect learning experiences provides clarification of the meaning of the ChiSq results.

The students were advised (via recruiting introduction letter) that the study was about online DE course work, specifically regarding group work and learning retention. With question 8 beginning the survey and question 57 ending the survey, the participant had the opportunity to select their response based on what they feel is the effect of group work and learning retention before responding to the rest of the survey queries. Question 8 does not say anything about an online DE learning situation but question 57 does specifically state group work in online DE.

Future Research

This study produced some questions that may be research questions for future study. In this study, participants were primarily over 50 years of age with five or more online DE courses taken to date. Results of this study may have been influenced by their age and experience with online courses. A study that limits age ranges may produce different results. Future research could explore the demographic data from the beginning of this survey.

Understanding that the presences overlap and intertwine, and assuming that aspects of both also fit into other presences, a question may ask if there is a connection between perceived learning retention and the presences that is not readily apparent in the survey data?

Another question explores the role of emotional presence on learner perception of perceived learning retention. As emotion has a common element with social presence (group work), if there is a lack of trust in the group work dynamic, will the learner be more attentive to discomfort or to learning? If the learner identifies a group work experience as either positive or negative, in what way, if any, does the emotion enhance or block perception of learning retention?

Other future studies that explore instructional design alternatives to group work would help to meet the needs of a broader range of students.

Final Comments

Given the extensive study from many directions of student experiences and perceived preferences in their graduate online distance education course[s] the final question remains, and that is, what are students' perceptions of a

relationship between graded group work in an online course and learning retention? Steps that have led to this question began with an expanded community of inquiry survey of graduate students currently enrolled in an online course. Their Likert and open ended responses were treated with the ChiSq analysis and examination of rich commentary on perceptions of positive, negative, and perfect learning experiences. The open-ended questions provided a set of perceptions; the CoI questions hoped to offer clarification as to the influences behind the perceptions. Interestingly, when given an opportunity to express themselves, some participants seemed to take full advantage and let the 'floodgates' open. Comparing the somewhat fluid conclusions with the ChiSq findings left more questions than answers, as the quantitative and qualitative stories did not always agree.

So, we can turn the question and ask students when they are in a group assignment, what do they perceive they need to gain, or even enhance, learning retention. Perceptions, again, speak to a range of likes and dislikes, wants and not-wants. One participant offered this conclusion:

> Distance education should involve reasoned discourse around meaningful ideas which lead to publicly useful knowledge. This environment helps me learn because it reflects how people generally learn best.

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Tables

Table 18

Question 58: Positive experience frequency

Presence and sub-category	f	Quotes
Social		
Group cohesion	3	Partnering with people helped me to navigate new information, check with others; collaborate in a way that supported my learning.
Open communication	25	...a weekly online study group...I and the participants found it very enjoyable and useful from a learning and collaborative perspective. We shared ideas and clarified concepts.
Affective expression	6	I found one other person worked to help complete the assignment. The other person only contributed one paragraph to the submission and really never participated.
Teaching		
Design & organization	8	The friendships developed were an added bonus to the learning experience. The quality of the assignments and the level of marks achieved were also great rewards.
Direct instruction	2	I have taken at least 10 online courses…the majority of discussion created a positive experience.
Facilitation	8	...completing such a task at a distance is an amazing feat. Motivation seems to be a key factor at play.
Cognitive		
Trigger event	2	What made it such a positive experience was that 4 of the 5 members contributed, took initiative to accomplish tasks & did the work IN ADVANCE of the deadlines.
Exploration	18	The result was four very different visions...we worked to integrate the best ideas...a valuable learning experience that underlined the importance of collaboration in reaching a solution.
Integration	10	Through email, points of view were explained and when agreement was achieved, these comments were included.
Resolution	8	

Emotional		
Outward expression	1	When positive emotion is involved, I am present. When I am present, I retain.
Affect	4	I facilitated a weekly online study group …I and the participants found it very enjoyable and useful from a learning and collaborative perspective. We shared ideas and clarified concepts.
Feelings	8	
Total	**103**	

Table 19.

Question 59: Negative experience frequency

Presence and sub-category	f	Examples
Social		
Group cohesion	44	…some group members were doing most of the work while others were just taking credit for the work done.
Open communication	15	A group was to conduct a discussion on a topic and submit a report. The participants waited for someone else to do the work...I ended up doing all the prep and writing the report.
Affective expression	3	I look back at this and remember the issues rather than the learning.
Teaching		
Design & organization	10	...when students are forced to write a document together
Direct instruction	5	I took a difficult online course where the instructor was not present – did not facilitate, guide or answer questions
Facilitation	7	I found our Moodle site, except for the discussion forms which were good, poor in fostering communications. The chat site seems almost non-existent and lack of a message alert caused student to miss messages.
Cognitive		
Trigger event	10	I feel that this influenced my learning positively because I had to do more work to get the job done.
Exploration	1	This made learning more difficult, as you do not get the benefit of getting other people's perspective into a specific problem.
Integration	5	...both students had differing views of the application of APA to the writings.
Resolution	11	Ownership of various sections of the paper was constantly re-edited.
Emotional		
Outward expression	3	The end result was actually pretty good but the process was difficult and stressful.

Affect	5	It was a debate, UGH, my group was too large
Feelings	17	Rather than being collaborative, I feel my work was just a spoke in a wheel that I never got to see roll down the road.
Total	**136**	

Table 20.

Question 60: Perfect experience frequency

Presence and sub-category	f	Quotes
Social		
Group cohesion	39	Group work with both small and large groups Group work for assignments Learning from answers posed by other students
Open communication	54	Open communication and interaction Forums used to discuss assignments
Affective expression	0	
Teaching		
Design & organization	82	Well-designed course with current materials Having clear course materials and instructions that is up to date
Direct instruction	25	Having an active professor who creates real life situations
Facilitation	28	Instructor who provides assistance to the student
Cognitive		
Trigger event	4	Import challenges that lead to enhanced learning Work activities focused on a challenging task
Exploration	3	Posting from other students provides value to learning
Integration	1	Posting from other students provides value to learning Discussing topics with other students
Resolution	2	
Emotional		
Outward expression	7	Posting reflections of why their point of view/idea has caused a change in their thinking
Affect	2	Some personal reflection
Feelings	8	Not having to waste lots of time trying to figure out what work has to be completed
Total	**255**	

Appendix A

Pilot Project Program (2009)

Question	Choice	Response
1. Do you have work related experience from current or past employment?	Yes	91%
	No	9%
2. If so, what kind of employment arrangement was it?	Full time	33%
	Part time	64%
	Unanswered	3%
3. How many years of work related experience do you have?	3-6 months	11%
	6-9 months	2%
	9-12 months	4%
	1-2 years	22%
	More than 2 years	55%
	Unanswered	6%
4. Did you work full time before beginning your program?	Yes	45%
	No	48%
	Unanswered	7%
5. Indicate your age bracket	19 or less	13%
	20-25	73%
	26-30	13%
	30-35	0%
	Over 35	1%
6. What is your current level of completed education?	High School	78%
	College Certificate	4%
	College Diploma	15%
	Bachelor	3%
	Master's/PhD	0%
7. Before you began the program you are, when was the last time you were in school?	1999 or prior	5%
	2000-2002	11%
	2003-2005	13%
	2006-2008	66%
	2009	5%
8. Select your preferred learning styles (select all that apply to you)	Reading	38%
	Listening	58%
	Seeing	64%
	Group work	36%
	Hands on	67%
	experience	20%
	Thinking	53%

9. Did you like completing the Quiz with one other student?	Yes No	96% 4%
10. Rate your partner's ability to help, clarify or explain material that you were unclear about?	Excellent Very Good Good Satisfactory Unsatisfactory	56% 25% 16% 3% 0%
11. Did you have the same partner for both quizzes?	Yes No Unanswered	71% 28% 1%
12. If you answered 'No' to question #11, considering that you have had multiple partners, has either of your partners been exceptional in helping you understand the material?	Yes No Unanswered	22% 11% 67%

Appendix B

Research Ethics Board Approval

Memorandum

Athabasca University

Vice-President Academic

Date:	June 13, 2012
To:	Lynn Applebaum
From:	Margaret Haughey – Vice President Academic
Subject:	Institutional Permission - #CDE-12-02

You have been approved to contact Athabasca University students and systems for your research proposal "Online Instructional Group Work and Learning Retention: Perceptions from the student's point of view" subject to the following conditions:

- Your research proposal has been approved by the Athabasca University Ethics Board (AUEB);
- Student information is used solely for the purpose outlined in the research proposal submitted to the AUEB;
- Secondary uses of data or subsequent research proposal(s) will require additional approval of AUEB, permission of the students or former students and institutional permission if the individual is still an Athabasca University student;
- Student participants will be provided with information about how information will be represented in documentation, reports and publications;
- Student information will not be shared with a third party;
- The nature of communication with students is that outlined in the research proposal submitted to the AUEB;
- Students demographic information will be used solely within the research project;
- Documentation such as student responses to questionnaires, interview responses (written or taped), observations of individual student behaviors, etc. will not be used for any purpose other than that outlined in the research proposal submitted to AUEB;
- Student information will be kept confidential until it is destroyed after a period not in excess of 10 years;
- Use of personal information will be in compliance with the **Freedom of Information, Protection of Privacy (FOIP)** legislation of the province of Alberta, Canada.

I wish you every success with your research project.

cc Research Ethics Board
Registrar
Marti Cleveland-Innes – Centre for Distance Education
Cynthia Blodgett – Centre for Distance Education

Appendix C

Participant Consent

To participate in this research study you need to provide your consent. Once you have read this consent form, dated it, provided your name and agree with the terms, please return via email to me at lynn.applebaum@sympatico.ca with the header noted as "***Participant Request for Study***." Once it has been acknowledged, you will receive an email that provides the link to the survey. Please make sure that you complete the survey in one attempt as saving your responses and return later may result in clearing all your previous choices.

Please read the following:

I have read and understood the information contained in the letter, and I agree to participate in the study, on the understanding that I may refuse to answer certain questions, and I may withdraw during the data collection period.

_____ _____ _____

First Name Last Name Date

I am collecting your first and last name. Rest assured that I will be the only person who has access to this evidence and will not use this information whatsoever; it will be kept private and secured during the thesis stage and deleted once the survey is concluded.

Appendix D

Letter of Introduction to Student Participants

(February 15, 2012)

Hello students:

My name is Lynn Applebaum and I am a Master's of Education student (major in Distance Education) at Athabasca University. I am focusing my thesis research study on graduate student's perception of their learning retention from group work in online distance education program. For this survey, the term '***group work***' is defined to be *working with others online*.

You are being invited to participate in this study because you are currently enrolled in an online distance education Master's program. Your feedback will provide new data on how you feel you, personally, learn from group work. This study is important for future research on how to create the most effective learning for online distance education students. Your responses will remain private, anonymous, protected and will not be shared with any other party without your prior consent. Participation in this survey is on a volunteer basis.

You will find a series of questions in the survey that will be linked to you via email once you have returned the consent form. This survey should take approximately 30-45 minutes to complete.

The existence of the research will be listed in an abstract posted online at the Athabasca University Library's Digital Thesis and Project Room; the final research paper will be publicly available. You will be responding to statements

regarding profile sector, teacher presence, social presence, how you like to learn, long term learning, and how you learn. You will also be able to share any other information that was not specifically asked.

This study has been reviewed by the Athabasca University Research Ethics Board. Should you have any comments or concerns regarding your treatment as a participant in this study, please contact the Office of Research Ethics at (780) 675-6718 or by e-mail to rebsec@athabascau.ca

Thank you for participating in this survey.

Lynn

Appendix E

Zoomerang Survey

Applebaum Thesis

Created: May 11 2012, 12:48 PM
Last Modified: July 02 2012, 7:32 PM
Design Theme: Blue Ribbon
Language: English
Button Options: Custom: Start Survey: "Start Survey!" Submit: "Next"
Disable Browser “Back” Button: False

Applebaum Thesis

Page 1 - Question 1 - Open Ended - Comments Box

Please type in your research respondent identification number

Page 1 - Question 2 - Choice - One Answer (Bullets)

What is your gender?

- ○ Male
- ○ Female
- ○ I prefer not to answer.

Page 1 - Question 3 - Choice - One Answer (Bullets)

Please indicate your age bracket

- ○ 20 - 29 years
- ○ 30 - 39 years
- ○ 40 - 49 years
- ○ 50 years and older
- ○ I prefer not to answer.

Page 1 - Question 4 - Choice - One Answer (Bullets)

Is English your first language?

- ○ Yes
- ○ No

- ❍ I prefer not to answer.

Page 1 - Heading

The following questions are the survey for my thesis. As you answer these questions, please think about your experiences in an online course and with group work, if any. Please use the Next button to progress through the survey. Thank you! Lynn

Description

Page 1 - Question 5 - Choice - One Answer (Bullets)

How many online distance education courses have you taken to date including the one you are currently enrolled in?

- ❍ This is my first online distance education course
- ❍ 2 to 3 online distance education courses
- ❍ 4 to 5 online distance education courses
- ❍ More than 5 online distance education courses

Page 1 - Question 6 - Choice - One Answer (Bullets)

How often do you communicate in your current online distance education course?

- ❍ Never
- ❍ Once a week
- ❍ Twice a week
- ❍ Three to four times a week
- ❍ Five or more times a week

Page 1 - Question 7 - Choice - One Answer (Bullets)

Have you participated in an online distance education group assignment were marks were applied?

- ❍ Yes
- ❍ No

Page 2 - Question 8 - Rating Scale - Matrix

I feel that I learn more when I am in a group of two or more people.

StronglyDisagree	Disagree	Neutral	Agree	StronglyAgree
❍ 1	❍ 2	❍ 3	❍ 4	❍ 5

Page 2 - Question 9 - Rating Scale - Matrix

1 The instructor clearly communicated important course topics.

StronglyDisagree	Disagree	Neutral	Agree	StronglyAgree
❍ 1	❍ 2	❍ 3	❍ 4	❍ 5

Page 2 - Question 10 - Rating Scale - Matrix

13 The instructor provided feedback in a timely fashion.

StronglyDisagree	Disagree	Neutral	Agree	StronglyAgree
❍ 1	❍ 2	❍ 3	❍ 4	❍ 5

Page 2 - Question 11 - Rating Scale - Matrix

28 Online discussions were valuable in helping me appreciate different perspectives.

StronglyDisagree	Disagree	Neutral	Agree	StronglyAgree
❍ 1	❍ 2	❍ 3	❍ 4	❍ 5

Page 2 - Question 12 - Rating Scale - Matrix

The instructor acknowledged emotion expressed by students.

StronglyDisagree	Disagree	Neutral	Agree	StronglyAgree
❍ 1	❍ 2	❍ 3	❍ 4	❍ 5

Page 2 - Question 13 - Rating Scale - Matrix

9 The instructor encouraged course participants to explore new concepts in this course.

StronglyDisagree	Disagree	Neutral	Agree	StronglyAgree
❍ 1	❍ 2	❍ 3	❍ 4	❍ 5

Page 3 - Question 14 - Rating Scale - Matrix

29 Combining new information helped me answer questions raised in course activities.

StronglyDisagree	Disagree	Neutral	Agree	StronglyAgree
❍ 1	❍ 2	❍ 3	❍ 4	❍ 5

Page 3 - Question 15 - Rating Scale - Matrix

31 Reflection on course content and discussions helped me understand fundamental concepts in this class.

StronglyDisagree	Disagree	Neutral	Agree	StronglyAgree
❍ 1	❍ 2	❍ 3	❍ 4	❍ 5

Page 3 - Question 16 - Rating Scale - Matrix

I felt comfortable expressing emotion through the online medium.

StronglyDisagree	Disagree	Neutral	Agree	StronglyAgree
❍ 1	❍ 2	❍ 3	❍ 4	❍ 5

Page 3 - Question 17 - Rating Scale - Matrix

12 The instructor provided feedback that helped me understand my strengths and weaknesses relative to the course's goals and objectives.

StronglyDisagree	Disagree	Neutral	Agree	StronglyAgree
❍ 1	❍ 2	❍ 3	❍ 4	❍ 5

Page 3 - Question 18 - Rating Scale - Matrix

5 The instructor was helpful in identifying areas of agreement and disagreement on course topics that helped me to learn.

StronglyDisagree	Disagree	Neutral	Agree	StronglyAgree
❍ 1	❍ 2	❍ 3	❍ 4	❍ 5

Page 3 - Question 19 - Rating Scale - Matrix

20 I felt comfortable disagreeing with other course participants while still maintaining a sense of trust.

StronglyDisagree	Disagree	Neutral	Agree	StronglyAgree
❍ 1	❍ 2	❍ 3	❍ 4	❍ 5

Page 4 - Question 20 - Rating Scale - Matrix

27 Brainstorming and finding relevant information helped me resolve content related questions.

StronglyDisagree	Disagree	Neutral	Agree	StronglyAgree
❍ 1	❍ 2	❍ 3	❍ 4	❍ 5

Page 4 - Question 21 - Rating Scale - Matrix

19 I felt comfortable interacting with other course participants.

StronglyDisagree	Disagree	Neutral	Agree	StronglyAgree
❍ 1	❍ 2	❍ 3	❍ 4	❍ 5

Page 4 - Question 22 - Rating Scale - Matrix

30 Learning activities helped me construct explanations/solutions.

StronglyDisagree	Disagree	Neutral	Agree	StronglyAgree
❍ 1	❍ 2	❍ 3	❍ 4	❍ 5

Page 4 - Question 23 - Rating Scale - Matrix

21 I felt that my point of view was acknowledged by other course participants.

StronglyDisagree	Disagree	Neutral	Agree	StronglyAgree
❍ 1	❍ 2	❍ 3	❍ 4	❍ 5

Page 4 - Question 24 - Rating Scale - Matrix

8 The instructor helped keep the course participants on task in a way that helped me learn.

StronglyDisagree	Disagree	Neutral	Agree	StronglyAgree
❍ 1	❍ 2	❍ 3	❍ 4	❍ 5

Page 4 - Question 25 - Rating Scale - Matrix

26 I utilized a variety of information sources to explore problems posed in this course.

StronglyDisagree	Disagree	Neutral	Agree	StronglyAgree
❍ 1	❍ 2	❍ 3	❍ 4	❍ 5

Page 5 - Question 26 - Rating Scale - Matrix

24 Course activities piqued my curiosity.

StronglyDisagree	Disagree	Neutral	Agree	StronglyAgree
❍ 1	❍ 2	❍ 3	❍ 4	❍ 5

Page 5 - Question 27 - Rating Scale - Matrix

25 I felt motivated to explore content related questions.

StronglyDisagree	Disagree	Neutral	Agree	StronglyAgree
❍ 1	❍ 2	❍ 3	❍ 4	❍ 5

Page 5 - Question 28 - Rating Scale - Matrix

10 Instructor actions reinforced the development of a sense of community among course participants.

StronglyDisagree	Disagree	Neutral	Agree	StronglyAgree
❍ 1	❍ 2	❍ 3	❍ 4	❍ 5

Page 5 - Question 29 - Rating Scale - Matrix

32 I can describe ways to test and apply the knowledge created in this course.

StronglyDisagree	Disagree	Neutral	Agree	StronglyAgree
❍ 1	❍ 2	❍ 3	❍ 4	❍ 5

Page 5 - Question 30 - Rating Scale - Matrix

7 The instructor helped to keep course participants engaged and participating in productive dialogue.

StronglyDisagree	Disagree	Neutral	Agree	StronglyAgree
❍ 1	❍ 2	❍ 3	❍ 4	❍ 5

Page 5 - Question 31 - Rating Scale - Matrix

3 The instructor provided clear instructions on how to participate in course learning activities.

StronglyDisagree	Disagree	Neutral	Agree	StronglyAgree
❍ 1	❍ 2	❍ 3	❍ 4	❍ 5

Page 6 - Question 32 - Rating Scale - Matrix

14 Getting to know other course participants gave me a sense of belonging in the course.

StronglyDisagree	Disagree	Neutral	Agree	StronglyAgree
❍ 1	❍ 2	❍ 3	❍ 4	❍ 5

Page 6 - Question 33 - Rating Scale - Matrix

34 I can apply the knowledge created in this course to my work or other non-class related activities.

StronglyDisagree	Disagree	Neutral	Agree	StronglyAgree
❍ 1	❍ 2	❍ 3	❍ 4	❍ 5

Page 6 - Question 34 - Rating Scale - Matrix

11 The instructor helped to focus discussion on relevant issues in a way that helped me to learn.

StronglyDisagree	Disagree	Neutral	Agree	StronglyAgree
❍ 1	❍ 2	❍ 3	❍ 4	❍ 5

Page 6 - Question 35 - Rating Scale - Matrix

23 Problems posed increased my interest in course issues.

StronglyDisagree	Disagree	Neutral	Agree	StronglyAgree
❍ 1	❍ 2	❍ 3	❍ 4	❍ 5

Page 6 - Question 36 - Rating Scale - Matrix

16 Online or web-based communication is an excellent medium for social interaction.

StronglyDisagree	Disagree	Neutral	Agree	StronglyAgree
❍ 1	❍ 2	❍ 3	❍ 4	❍ 5

Page 6 - Question 37 - Rating Scale - Matrix

17 I felt comfortable conversing through the online medium.

StronglyDisagree	Disagree	Neutral	Agree	StronglyAgree
❍ 1	❍ 2	❍ 3	❍ 4	❍ 5

Page 7 - Question 38 - Rating Scale - Matrix

4 The instructor clearly communicated important due dates/time frames for learning activities.

StronglyDisagree	Disagree	Neutral	Agree	StronglyAgree
❍ 1	❍ 2	❍ 3	❍ 4	❍ 5

Page 7 - Question 39 - Rating Scale - Matrix

15 I was able to form distinct impressions of some course participants.

StronglyDisagree	Disagree	Neutral	Agree	StronglyAgree
❍ 1	❍ 2	❍ 3	❍ 4	❍ 5

Page 7 - Question 40 - Rating Scale - Matrix

2 The instructor clearly communicated important course goals.

StronglyDisagree	Disagree	Neutral	Agree	StronglyAgree
❍ 1	❍ 2	❍ 3	❍ 4	❍ 5

Page 7 - Question 41 - Rating Scale - Matrix

37 Expressing emotion in relation to expressing ideas was acceptable in this course.

StronglyDisagree	Disagree	Neutral	Agree	StronglyAgree
❍ 1	❍ 2	❍ 3	❍ 4	❍ 5

Page 7 - Question 42 - Rating Scale - Matrix

18 I felt comfortable participating in course discussions.

StronglyDisagree	Disagree	Neutral	Agree	StronglyAgree
❍ 1	❍ 2	❍ 3	❍ 4	❍ 5

Page 7 - Question 43 - Rating Scale - Matrix

33 I have developed solutions to course problems that can be applied in practice.

StronglyDisagree	Disagree	Neutral	Agree	StronglyAgree
❍ 1	❍ 2	❍ 3	❍ 4	❍ 5

Page 7 - Question 44 - Rating Scale - Matrix

22 Online discussions help me to develop a sense of collaboration.

StronglyDisagree	Disagree	Neutral	Agree	StronglyAgree
❍ 1	❍ 2	❍ 3	❍ 4	❍ 5

Page 8 - Question 45 - Rating Scale - Matrix

6 The instructor was helpful in guiding the class towards understanding course topics in a way that helped me clarify my thinking.

StronglyDisagree	Disagree	Neutral	Agree	StronglyAgree
❍ 1	❍ 2	❍ 3	❍ 4	❍ 5

Page 8 - Question 46 - Rating Scale - Matrix

35 Emotion was expressed when connecting with other students.

StronglyDisagree	Disagree	Neutral	Agree	StronglyAgree
❍ 1	❍ 2	❍ 3	❍ 4	❍ 5

Page 8 - Question 47 - Rating Scale - Matrix

38 The instructor demonstrated emotion in online presentations and/or discussions.

StronglyDisagree	Disagree	Neutral	Agree	StronglyAgree
❍ 1	❍ 2	❍ 3	❍ 4	❍ 5

Page 8 - Question 48 - Rating Scale - Matrix

Doing online group work assignments is only a way to socialize with other classmates.

StronglyDisagree	Disagree	Neutral	Agree	StronglyAgree
❍ 1	❍ 2	❍ 3	❍ 4	❍ 5

Page 8 - Question 49 - Rating Scale - Matrix

36 I found myself responding emotionally about ideas or learning activities in the course.

StronglyDisagree	Disagree	Neutral	Agree	StronglyAgree
❍ 1	❍ 2	❍ 3	❍ 4	❍ 5

Page 8 - Question 50 - Rating Scale - Matrix

I like to learn by myself.

StronglyDisagree	Disagree	Neutral	Agree	StronglyAgree
❍ 1	❍ 2	❍ 3	❍ 4	❍ 5

Page 9 - Question 51 - Rating Scale - Matrix

Having mandatory participation in group work or discussion forums is a waste of my time.

StronglyDisagree	Disagree	Neutral	Agree	StronglyAgree
❍ 1	❍ 2	❍ 3	❍ 4	❍ 5

Page 9 - Question 52 - Rating Scale - Matrix

I find it difficult to learn in an online distance education course.

StronglyDisagree	Disagree	Neutral	Agree	StronglyAgree
❍ 1	❍ 2	❍ 3	❍ 4	❍ 5

Page 9 - Question 53 - Rating Scale - Matrix

I feel that how I like to learn impacts my long term learning.

StronglyDisagree	Disagree	Neutral	Agree	StronglyAgree
❍ 1	❍ 2	❍ 3	❍ 4	❍ 5

Page 9 - Question 54 - Rating Scale - Matrix

My interest in learning has increased because of group work in an online distance education course.

StronglyDisagree	Disagree	Neutral	Agree	StronglyAgree
❍ 1	❍ 2	❍ 3	❍ 4	❍ 5

Page 9 - Question 55 - Rating Scale - Matrix

I do not need interaction amongst my classmates to learn.

StronglyDisagree	Disagree	Neutral	Agree	StronglyAgree
❍ 1	❍ 2	❍ 3	❍ 4	❍ 5

Page 9 - Question 56 - Rating Scale - Matrix

Frequent online chat forums in distance education is an effective way for me to learn.

StronglyDisagree	Disagree	Neutral	Agree	StronglyAgree
❍ 1	❍ 2	❍ 3	❍ 4	❍ 5

Page 9 - Question 57 - Rating Scale - Matrix

I was able to learn very well because of the group work activities online.

StronglyDisagree	Disagree	Neutral	Agree	StronglyAgree
❍ 1	❍ 2	❍ 3	❍ 4	❍ 5

Page 10 - Question 58 - Open Ended - Comments Box

Describe a positive group work experience in an online distance education course. Did a positive experience influence your learning? Why or why not? Do you feel that you will be able to recall learning from a positive experience? Why or why not?

Page 10 - Question 59 - Open Ended - Comments Box

Describe a negative group work experience in an online distance education course. Did a negative experience influence your learning? Why or why not?Do you feel that you will be able to recall learning from a negative experience? Why or why not?

Page 10 - Question 60 - Open Ended - Comments Box

Describe your perceived perfect learning situation in an online distance education course. Explain why this environment helps you to learn.

Page 10 - Heading

If you would like to share any other online distance education experiences that were key factors in your learning retention, or if you have any other questions, please forward them to my personal email which is: lynn.applebaum@sympatico.ca .Please complete this survey by going to the next page.

Description

Thank You Page

Keep in mind that I am the only person who will know your ID Number and email address.
Your confidentiality and privacy is of utmost importance.

Any advertising links to other websites that may appear on your screen while you are completing this survey are to be totally ignored. They are not part of this survey.

To exit this survey, please close the browser tab now.

Thank you!
Lynn

Screen Out Page

Standard

Over Quota Page

Standard

Survey Closed Page

Standard

Appendix F

Researcher's questions

8. I feel that I learn more when I am in a group of two or more people.

48. Doing online group work assignments is only a way to socialize.

50. I like to learn by myself.

51. Having mandatory participation in group work or discussion forums is a waste of my time.

52. I find it difficult to learn in an online distance education course.

53. I feel that how I like to learn impacts my long term learning.

54. My interest in learning has increased because of group work in an online distance education course.

55. I do not need interaction amongst my classmates to learn.

56. Frequent online chat forums in distance education is an effective way for me to learn.

57. I was able to learn very well because of the group work activities online.

Appendix G

Coding Template

Presence	Category	Indicator
Cognitive	Trigger Event	Sense of puzzlement
		Recognize problems
	Exploration	Brainstorming
		Divergent
		Information exchange
		Intuitive leaps
		Suggestions
	Integration	Connecting ideas
		Convergence
		Solution
		Synthesis
	Resolution	Apply new ideas
		Apply test defend
Social	Affective expression	Complementing
		Expressing appreciation
		Emotion
		Personal salutations
		Salutations
		Self-disclosure
		Using humour
		Written or live conversations
	Open communication /interactive behaviour	Asking questions
		Complementing
		Expressing appreciation
		Expressing agreement
		Quoting from others messages
		Referring explicitly from others' messages
		Risk-free expression
	Group Cohesion	Encouraging collaboration
		Inclusive pronouns
		Phatic
		Salutations
Teaching	Design & Organization	Defining and initiating discussion topics
		Designing methods
		Establishing time parameters
	Instructional Management	Macro level comments about course content
		Netiquette
		Setting curriculum

		Utilizing medium
	Facilitation	Agreement/disagreement
		Assessing the efficacy of the process
	Building understanding	Drawing in participants, prompting
		Encouraging, acknowledging
		Reinforcing contribution
		Sharing personal meaning
		Seeking consensus/understanding
		Setting climate for learning discussion
	Direct Instruction	Confirm understanding through assessment and explanatory feedback
		Diagnose misconception
		Focusing discussion
		Present content
		Summarize
		Share resources
Emotional	Outward expression	Stimulating, motivating communication
	Affect	Influence from other online students
	Feelings of individual	Stress, anxiety, frustration, anger, upset

Appendix H

Transcript - Positive online distance learning experience

Instructor led discussions were very helpful – especially the one in the Thesis writing course where the professor had the group thinking about their future and expectations of the thesis. There was tremendous feedback that added immediate value.
The most positive experience for me was a peer-review activity where I had to my work to a peer and, in turn, evaluate her work according to the assignment submit requirements. This experience certainly influenced my learning and ability to recall in that the lessons learned were very profound, even if only in a metacognitive way.
Students, in groups of two or three, created a journal article critique and then each group hosted a forum with discussion questions about the article and their critique. Participation marks are awarded both for moderating the discussion and adding substantive comments to other group forums. This was very effective, but time consuming, way for me to learn. I read all the forum initial posts, and while I only contributed to three forums, I read more than half of the articles. Yes I will be able to recall the learning from this experience.
All the group work I have done was a strain at best and a disaster at worst.
While a positive experience during the learning process can help retention of what is learned, it's more likely that retention of learning material comes more from application of that learning than from whether it was a group or other experience that fostered the learning in the first place.
My only positive experience was pair, not group work. Communication was good. My partner did her job & I did mine. This never happened with all members of any larger group.
I think what impressed me the most in a particular group work experience was how people who did not know each other (had never met face-to-face) were able to work so well collaboratively, in perfect harmony. I did on that occasion learn quite a bit from my colleagues. This learning included the subject matter in addition to their individual personalities. We had a deadline to hand in the assignment. All group members did their share of the job, no one was late or behind. The task was completed successfully. If you consider group members came from different cultural backgrounds,

different My most negative group work experience involved a student quitting the group, another student completing his assignment without group consultation and difficulties connecting with members. An experience which was supposed to be collaborative became individual. I cannot even recall the goal of the assignment but I can remember the participants and their lack of cooperation. , etc., and knew very little about each other, completing such a task at a distance is an amazing feat. Motivation seems to be a key factor at play.
In one course I was part of a group of three required to do an assignment, I found one other person worked to help complete the assignment. The other person only contributed one paragraph to the submission and really never participated.
It was myself and one other student (of my choosing!). It was positive because we were well matched in learning style, personality, goals and standards. I remember every detail of that assignment and carry that learning with me today. It was successful because we were equally matched, challenged each other to do better, worked on a topic of our choosing and were, in a sense, autonomous – the two of us!
We worked with a team of three; two were in the same time zone. The work was completed entirely online (a blog). It was simply a learning experience. I would not say that a positive experience influenced the learning. Yes I can recall learning from post positive and negative experiences.
Once, I was involved in a virtual presentation with 5 other classmates, where we used Adobe Connect to carry out the presentation. The topic of the presentation: How to use Adobe Connect efficient in a distance learning environment. This was a positive experience, as it got me to appreciate the unique characteristics of giving a presentation in this way. It also a good venue for group collaboration.
I have taken at least 10 online courses (between Athabasca and Guelph) and the majority of discussion created a positive experience. We were like minded individuals with a common goal – to learn.
A group paper was required in a course. After agreeing to the division of labour and tasks, critical reviews were performed on a single paper and summaries written. Through email, points of view were explained and when agreement was achieved, these comments were included.

I had a great group experience in MDDE610 with four great ladies. We met every week to discuss the learning activities, comments, and feedback. I learned a lot from this forum but others are not as genuine as this particular group.
I had a positive group work project in MDE604. My partner and I had the same work ethic, similar personalities and interests, similar work conditions, etc. We actually went on to be study buddies later in the course. Yes, I believe a positive experience increases engagement, interest, and in turn, learning. Yes, I feel that recalling learning from a positive experience is very likely.
A group work assignment in MDDE601 with 2 cohorts' demonstrated skills in unique ways brought together as a combined team. We all took responsibility for independent tasks while allowing for reasonable flexibility and respect among the group. As a result of this experience it has led to a friendship between two of us who live close by in different cities but often study together and participate in the same courses going forward.
While doing coursework for a VCC diploma, group work was a great way for group participants to play devil's advocate exposing each group member to new paradigms and ways of thinking about something. This was very positive in that, from many frames of reference, one can evolve a more developed frame of reference for oneself. I definitely recall learning from positive experiences. When positive emotion is involved, I am present. When I am present, I retain.
I recently participated in a group project where we all completely agreed and everyone worked really well together. We had excellent conversations about the topic at hand and my experience in the group helped me clarify my own understanding. I also feel that this group project helped me broaden my understanding.
When I was working in a course and we had to develop a joint project where each of us was responsible for one part it made the learning relevant to me and it stayed with me.
In all of the group work to date I have only had one positive group work experience. In this exercise the group of 5 had to collaborate to rank 'best teaching practices VS worst teaching practices.' What made it such a positive experience was that 4 of the 5 members contributed, took initiative to accomplish tasks & did the work IN ADVANCE of the deadlines. I won't necessarily remember what we came up with but I do remember what a

brilliant experience that collaboration was and how I want to ensure that I encourage that in any groups I'm part of as well as in groups that I facilitate.
I have completed the course work for the MDE program and in reflecting back on the group work undertaken in this program, I cannot help but smile. The friendships developed were an added bonus to the learning experience. The quality of the assignments and the level of marks achieved were also great rewards to the group assignment experience.
In MDDE603: Systems Analysis and Learning Theory, I was part of a strong 4-member work group. Our task was to perform a systems analysis for an existing DE learning program. The most challenging part of the assignment was to develop a Rich Picture situation analysis. In the first go-around, each team member developed his or her own draft of a Rich Picture. The result was four very different visions – but each one having a number of valuable ideas that were not captured in the others. Then, step by step, we worked to integrate the best ideas into a single Rich Picture that we were all happy with. We found this a valuable learning experience that underlined the importance of collaboration in reaching a solution that greatly improved on the initial inputs. My recall of this project has definitely been enhanced by the positive experience – and by the graphic (i.e. visual) nature of the inputs and products. What I remember the most is the effective process that we employed to reach what turned out to be a very good solution.
Partnering with people helped me to navigate new information, check with others, and collaborate in a way that supported my learning. I liked the support, especially in my first course when learning online was new. I will be able to recall that learning because I was an equal part in the process.
I cannot think of a positive group work experience in an online distance education course. I found group work very frustrating and am unable to answer this question.
I worked on a paper with two other people from different walks of life. I learned a lot from them and felt I had things to contribute from my perspective. We were able to use each other's strengths and compensate for each other's weaknesses to come up with a great final product. I learned about the topic but also learned about working effectively with others. The application of learning will help me apply it to other real life instances more readily.

Yes, recalling a course group activity, I remember that I learned many important things due to my colleagues' professional background.
Instructor led discussions were very helpful – especially the one in the Thesis writing course where the professor had the group thinking about their future and expectations of the thesis. There was tremendous feedback that added immediate value.
I facilitated a weekly online study group using Skype and Mikogo in each of my courses. I and the participants found it very enjoyable and useful from a learning and collaborative perspective. We shared ideas and clarified concepts.

Appendix I

Transcript - Negative online distance learning experience

Negative group work is when students are forced to write a document together. Working together to generate ideas to enhance learning works. A negative experience was when I was in a slightly dysfunctional group, with some members not 'pulling their weight' in the activity. I feel that this influenced my learning positively because I had to do more work to get the job done. I think it negatively influenced the laggards 'learning' while it positively influenced their grade.
I personally have not had a group work experience I would consider negative. However in the online course I teach, the biggest complaint I have received about group participation is unequal participation. Group work in one situation, meant trying to get people to do the work. Waiting until the late people get around to doing the work. Being saddled with group members who will not get the kind of marks I expect and yet my grade is lowered because I was forced to be in a group. I don't recall any negative experiences relating to group work during my courses.
There were 4 members of which one other than myself did extensive work and another contributed but failed to do the one thing he had promised. The fourth did next to nothing. Learning is more obvious from negative experience because change must be made. However, positive experience is every bit as valuable and often unheeded. I am not talking behavioral psych here but everyday ingenuous learning which includes all forms of communication.
A negative group work experience was one in which some group members were doing most of the work while others were just taking credit for the work done. This is unusual but it has happened (just like in face-to-face environments).
A group was to conduct a discussion on a topic and submit a report. None of the other 3 participants did any work in research, preparation, agenda setting or scheduling. The participants waited for someone else to do the work. As it stands I ended up doing all the prep and writing the report. It is impossible to have a good learning experience if no one else participates. I only recall the negative feelings about the session and got on with the course and my education.
It was a debate, UGH, my group was too large. One person was in Norway, the other in England. English was a second language for the former. We did

not get to choose the topic – we were assigned to it. We did not have similar standards with respect to writing and I hated every minute of that. The result was a poor product for certain. Over the long term, I can hardly remember what out arguments 'for' were…and remember even less of the arguments our opponents provided 'against'.
The group consisted of four participants all in different time zones. The work was completed via a Word document that was emailed among participants.
Yes I can recall learning from both positive and negative experiences. There was no one specific negative experience, per se, but there were courses you simply worked on your own and fostered very little communication or group collaboration. This made learning more difficult, as you do not get the benefit of getting other people's perspective into a specific problem. Sometimes viewing a problem from a different perspective helps in appreciating and learning the new material. A negative work experience was when I took a difficult online course where the instructor was not present – did not facilitate, guide or answer questions. My peers attempted to work through and sort through the complicated materials.
Within the same assignment, both students had a differing view of the application of APA to the writings. Ownership of various sections of the paper was constantly re-edited. The final paper did lose marks as APA was not consistently applied.
I enjoy the online discussion forums – sometimes there are too many responses to take in all of the information. When I do post, and sign my name, I think it is only proper to address someone by that name and not their full name. I had one student who would constantly use my full name (which is disrespectful when I sign off with my shortened name). He was not genuine with his responses, was opening rude with his responses, and challenged me in the forums. I would like to say it was only in one class but he has been in several and he has done this on several occasions. I did not enjoy this experience.
I had a negative group work experience in the same course. This was a larger group and it was perceived that the work was not shared equally. We had some connectivity issues, scheduling problems, and other conflicts. I look back at this and remember the "issues" rather than the learning. I can recall my part of the assignment, but do not have a good grasp of what the others contributed. Rather than being collaborative, I feel my work was just a spoke in a wheel that I never got to see roll down the road.
None has been experienced as of yet but I expect it may happen as it

occurred in traditional learning on occasion so the odds are no different with on line learning I feel because the positive or negative experience is all attributed to working with other human beings.
Occasionally, group participants were not participatory. Or, they were late in posting their thoughts or their portion of an assignment. This, of course, was a negative experience in that one non-participatory person's place in the virtual classroom could have been taken by someone participatory who would have contributed something of value for others to learn from. There is something to learn from all experiences in life. So, while a non-participatory classmate may not help to learn course curricula, they can help in learning how to deal with non-participatory people!
I was in a group once where we all found it really difficult to get going on the project. We ended up throwing it together a week before it was due. It wasn't a really bad experience more a lesson in what not to do. The end result was actually pretty good but the process was difficult and stressful.
My overall experience with the M.Ed. program has been so-so with the exception of a few instructors; the majority have been a real disappointment. The guidelines for some courses were very unclear and I felt very frustrated with the whole experience. These experiences have really colored my learning in a negative way. Will I recall the learning – probably not.
For me, group work has been, with the above noted question, a source of frustration and negative learning for me. In group experiences so far my fellow group members procrastinate to the final moment and leave me feeling very anxious about the work we are trying to accomplish. Despite my best efforts to find classmates who do not leave things to the end, or work late into the early hours of the morning…I have not been that fortunate. At the graduate level, I dislike having my grades tied to the efforts of others. Not being one to sound like a whiner, I am not willing to bring these behaviours to the attention of the Professor – this is after all – graduate level. My learning from these experiences is to cringe when I see group work as part of grading scheme for a course; this includes discussion forums where you MUST participate even if you have nothing of value to say. I also feel that the 'you must post twice and respond twice' grading of discussion forum/group exercises diminish the value of discussion. The net result of this extreme emphasis on group work and discussion forum grading has been to have me consider taking my studies elsewhere. With the program at the University of Ontario they are up front that interaction is in the form of weekly webinars – a format I find more appealing than the forced interaction of discussion groups and group work with those who prefer to work at the

last minute…or not at all.
In many group assignments, only one negative experience comes to mind and that involved a group member who felt that she was an expert and the rest of us were not. This individual continually talked down to the other and kept trying to force her ideas upon the rest of the group. However, the assignment turned out well and the experience was not unlike other situations in work and family.
I haven't had a truly negative group work experience. On a couple of occasions, a weak member caused minor concerns about the quality of the product we were jointly working to produce, but, in those cases, the remain group members always found a way to make up for the deficiency.
My partner was unavoidably out of reach by internet. I ended up doing most of the project. I would have started earlier if I was doing it on my own. I found it stressful but I pulled it off and I did learn what I needed to learn. I still recall what I learned. Even though the group experience did not work that well I had to do the work so I learned.
My most negative group work experience involved a student quitting the group, another student completing his assignment without group consultation and difficulties connecting with members. An experience which was supposed to be collaborative became individual. I cannot even recall the goal of the assignment but I can remember the participants and their lack of cooperation.
I found our Moodle site, except for the discussion forms which were good, poor in fostering communications. The chat site seems almost non-existent and lack of a message alert caused student to miss messages. Also in my last course I found the instructor's assignment marking and communication inconsistent and lacked constructive criticism. I found this a distraction to learning. In my research methods course the instructor was excellent. She engaged with each student in the discussion form and emails. She was clear in her instructions, assignment marking feedback and brought a sense of community to the class. This helped to enhance learning. Please note – the comments made in the previous section reflect my most recent course, not the research methods course.
No, but I had low marks than all my other assignments I did alone, because this group member will not incorporate any suggestions.
Working with a group of two other people, where one did participate in the report writing very often but when they did their writing was verging on plagiarism. A negative experience does not negate learning; it is still occurring, possibility more so because the two of us did the work.

Appendix J

Transcript - Perfect online distance learning experience

Students are placed in groups to facilitate discussions. No group work required, only use the discussion environment to query/brainstorm/what we are learning. The discussion would be initiated by the professor and moderator. NO group work that requires the submission of a document – most of the time spent on negotiation of work, editing and reviewing work of others – no value except for an English writing course!
The ideal situation for me is reflected in the statement: 'Distance education should involve reasoned discourse around meaningful ideas which lead to publicly useful knowledge'. This environment helps me learn because it reflects how people generally learn best.
Don't think this answer applies to your question, but here it goes. In my opinion the best online learning discussions are in Facebook closed groups where link minded individuals in a similar industry are talking and sharing ideas about how to better utilize technology in their business. Collaboration of knowledge; skills and ability is shared and the best part is there is no facilitator/narrator dictating the flow of the conversation. The discussion is being done naturally and not forced like with online courses with an assigned grade for participation.
Tough question….I like forums where we can contribute to the knowledge of the group. I like learning both from peers and Professors. I like the pacing provided by a weekly schedule. I enjoy accessing supplementary material and I appreciate learning from answers to the questions posed by other students. I very much appreciate that I can email my Professors and receive timely feedback.
On line learning was a positive experience in my life. I was lucky enough to cross paths with some distinguished and certainly talented professors/tutors who were able to create a real life feel virtually (felt like an actual class). Also the ability to communicate with tutors re: an assignment, questions and so on…was extremely beneficial and hopefully AU can increase their tutorial phone hours.
Give me the assignments, the expectations and let me do it.
I am a great proponent of employing a variety of learning strategies to help generate the most comprehensive learning possible. In that context, a "perfect" learning situation would involve some individual learning activities, some small

group activities and some large group activities. It would involve some activities that focus on digging for new information, some personal reflection on that information, some interaction with fellow learners, and some interaction with those more knowledgeable, some testing of the learning that is created in the process. Such an environment would allow for development of understandings at more basic levels (gaining new factual information) and at higher levels (re-formulation of concepts and their application to novel situations). It would also allow for testing of hypotheses in a somewhat controlled environment that provides for the input from and of other perspective and for import challenges to allow the learning to be enhanced even further.
A perfect learning situation is no different in DE than F2F. (1) The course is well designed with recent, relevant course materials. (2) It has specific assignment topics that clearly state what is required rather than appearing to be broad when they aren't. (3) There is open communication/interaction. (4) Forum/email entries are actually read with an effort to understand before replies are made. Unfortunately, students/instructors often have low reading comprehension skills, minimal vocabularies and difficulty expressing themselves. (5) Assistance should be available from the instructor, but he/she should not intrude on any discussion unless asked to do so.
Discussion forums, synchronous classes and group work enhance learning in online DE courses. The instructor's presence is fundamental to keep learners on tract, to facilitate learning and to resolve doubts or conflicts.
Unfortunately I cannot contribute here. My experience with most courses is that the participants are looking for someone else to do the work. I would prefer to do my own work and discuss that with the instructor.
I like to learn on my own: then apply my knowledge in a paired situation. Too many cooks spoil the broth. Too many cooks and I end up becoming project manager; a role that detracts from learning. I like to pick my collaborator, and my topic. When I am autonomous, I am empowered to learn. I learn best with someone who can challenge me, and who I can relate to on a personal level. It is a true collaboration that way and the learning superior as a result.
Forums are fine. Marks based on forum participation are fine. The rules for forum participation must be clear as well as the nature of the forum, e.g. do they need to be supported with references cited length per post, etc. The option to respond to a selection of forum questions is critical. As is the overall weighting; if there is a 'word count' and a minimum requirement of responses the total must be in the right weighting relative to the other marked components

of the course. Group work in an online environment does not help me learn. It's a burden, especially if one or more of the participants are in different time zones.
My perfect learning situation would be to learn at a distance using a variety of technologies, venues and activities, not just one, as this ensures more variety of learning and makes the course interesting and engaging. This would mean going through the material via electronic means, such as the Internet, or using traditional printed material and doing so from anywhere at a time that best suits me. At the same time, I would like to collaborate with others, either synchronously or asynchronously, and carry out group work for certain assignments. In other words, although I like to work independently, I also like to work with people for variety.
All online courses that I have taken have been very positive (except where the instructor was not involved). The only element that could be added would be additional time to prepare for weekly materials or materials provided in advance.
Although new to discussion forums, I can immediately see the advantage. A perfect situation would be to have a group of students review a specific journal articles and then discuss. Ideas raised by group members should be supported by additional research. This would assist learning as each person adds to the knowledge base of the group and forms a personal point of view connection to the common paper and to their own research. Points of view may change. Group members should then post their own reflections as to why they maintained a point of view or the idea/conversation that caused them to change.
There is no perfect situation but I think there should be marks for participation in the online forums. It will help to get everyone involved and provide different perspectives in learning.
My perceived perfect online learning situation would include assignments that provided the choice to work independently or in groups. All course materials and instructions must be clear and up to date. They would definitely include discussion forums, but with some limit on the number of participants; I think these have to hold some weight – mark wise – for everyone to get involved. The discussion forums should be relevant to my readings. As for readings, I would like to be assigned required readings are that are very specific to the topics and that are manageable in for the course time frame. Most of the required readings that are very specific to the topics and that are manageable

in for the course time frame. Most of the time, I prefer asynchronous learning, but have also enjoyed topics discussed on Blackboard Collaborate. These could be recorded and offered both synchronously and asynchronously. Finally, my assignments would be relevant to my work; what I create in my course, I can put into action in my work. After all, that is why I am in the program. These things help me learn because they allow me to fit studying into my very demanding job, they allow me to focus in on what is important, they allow me to be more engaged and invested in a particular topic. If I am trying to sort out unclear details for assignments, organize group work around a 50+ hour work week, and spending time on readings that are not relevant, my motivation is down and my frustration is up; the course would not be worth my time.
A combination of 4 – 6 discussion forums but not weekly as it can bombard you on top of assignments. Secondly having the ability to discuss assignments with a dedicated assignment discussion forum and lastly a professor who is adaptable and sensitive to multiple demands of an on line learner. For example I have a demanding job, kids in university and a sick elderly parent (often coined the sandwich generation). I am caught in the middle and need the flexibility of on line learning for convenience and the ability for others to understand the conflicting demands.
A combination of group work and solo work with clear expectations and timelines communicated by the instructor. As much as I hate to say this, big challenging assignments forces one to get the reading done early in order to hit deadlines. Clear, concise, detailed explanations of what is to be submitted are an enormous help. This clear communication helps me learn by my not having to waste learning-time trying to figure out what is required of an assignment or group work.
I would love a learning environment where we could discuss topics informally on a regular basis. Sometimes I feel like my classmates at AU are too formal in the forums. For me it is really important to have an informal place to bounce ideas around.
Profs need to be enthusiastic about what they teach. They need to be involved not by-standers who offer the odd moment and the let the class go off on irrelevant tangents.

My perceived perfect learning…start with a topic that is interesting to me, helps to improve my skills and learning and moves me towards my goal. Then put in well thought out readings and exercises that stimulate that interest. Fellow students who also like to learn are a great addition, so long as our interaction isn't forced and my grades aren't dependent on them (I like the study buddy & peer review model). Put in some good assignments that have a learning purpose but allow me to choose the direction/topic/application that I use. Put in a great Prof who is available and willing to connect with students. A Prof who is clearly engaged and passionate about Distance Education. Someone who will read, understand and respond. (Did you know that I have never heard from my academic advisor despite emailing him?). I then think another key ingredient in the mix is having the time to do the work to the best of my abilities with a clear understanding of what the Professor is grading on so that I'm not spending hours trying to 'figure it out'. This figuring it out only increases my anxiety, not my learning. A great textbook also helps, not sure why, maybe it's a throw back to my undergrad days, but I like that physical book that I can carry and read and highlight and put notes in the margins, etc. I do a lot of reading on the computer; however I do enjoy a class with a great textbook. To top it all off, it helps if I get a good grade because despite my best efforts – grades are still important to me.
A blend of individual work and group work is ideal for my learning style and desires.
What I look for in an online learning experience is a dynamic mix of complementary learning activities: provocative readings; relevant case studies; active online discussion centered on interesting questions; reference to current events/developing situations in the "real world" that are related to the course; the opportunity for real-time interaction with fellow classmates (e.g. in synchronous learning events; Skype calls), work group activities focused on a challenging task; and frequent synchronous or asynchronous interaction with the instructor and/or subject matter experts. For me, much of the value arises from the contributions of mature classmates (people already in the work world) who have experiences of their own to share.
Probably one shared or group project/paper and the others done alone. Forums related to what we need to do for papers, to help with relevant learning (sometimes the forum questions have been too early or too late to support what I needed to learn the complete assignments).