Mount Saint Vincent University

Making Sense of Computer-Mediated

Communication in Online Learning

by

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Abstract

The objective of this thesis is to understand how students make sense of online learning. I set out to explore questions like: Do students make sense of online courses as meaningful? What factors influence students' sensemaking of online education? A review of the literature revealed that many people avoid online learning because they believe they will perform poorly in this environment. It also found that students who took an online course were often satisfied with their experience despite their initial resistance to this form of learning. What is interesting is that there is very little research about the process students go through to achieve this new acceptance. My own experience as a student was consistent with what I found in the literature which prompted me to explore this topic.

To try and understand more about the process leading to acceptance, PR graduate students from Mount Saint Vincent University were interviewed about their experiences with online learning. This qualitative approach allowed students to reflect on their own journey and provided rich interviews for analysis. Weick's (1995) sensemaking provided a theoretical framework which allowed me to analyse the process students underwent to accept online learning as meaningful and effective. Throughout the students' journey the seven psychosocial sensemaking properties (Weick, 1995, 2005) were evident, some more prominent than others. Participants clearly articulated their sensemaking process as rooted in identity construction. This property was evident in student interviews about their own presence as students, their identities as students as defined through relationships with classmates, and the ways in which they attributed identity to their professors. In discussing their initial resistance to online learning, participants also demonstrated properties of retrospection, plausibility, and the extraction of cues from their environments. As well, in discussion of their overall experiences with online learning participants highlighted the social and ongoing nature of sensemaking.

At the end of their journey to make sense of online learning, students believed that online learning was as effective as traditional face-to-face learning. Expanding our understanding of this sensemaking process as educators and communicators may allow us to support students in their journey to make sense of online learning more effectively.

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Chapter 1: Introduction

With more than one billion people in the world with internet access, many organizations and institutions have become dependent on computer-mediated communication (CMC), and recognize the role it plays in learning and education (Postmes, Spears & Lea, 1998, p. 692; Li, 2006, p. 525). Computer-mediated communication (CMC) is broadly defined as "… the transmission and reception of messages using computers as input, storage, output and routing devices" (Nawratil, 1999, Computer-Mediated Communication section, ¶ 1). The evolution of computer and internet technologies has changed how, and the speed at which, information is shared.

As a result, CMC has also changed how organizations do business and the flow of information within these organizations (Kiesler, Siegel & McGuire, 1984). Individuals can now communicate instantaneously at low costs and over great distances; work is shared and reviewed easily without individuals ever having to meet; employees and managers alike communicate on an equal playing field breaking down hierarchical barriers; and information is more accessible and more difficult to control.

Given these attributes, it's no surprise that educational institutions would also seek to benefit from these new technologies, particularly in the field of distance education. Distance education is defined as "…various forms of study at all levels which are not under the continuous, immediate supervision of tutors present with their students in lectures rooms or on the same premises, but which, nevertheless, benefit from the planning, guidance, and tuition of a tutorial organization" (Larreamendy-Joerns & Leinhardt, 2006, p.568).

The virtual classroom has become very common in the distance education field, so much so, researchers feel that online education may emerge as a new educational paradigm, and change and revitalize the education and training fields (Nawratil, 1999; Cetindamar & Olafsen, 2005). The rapid growth of CMC learning environments, with nearly 12 million students in the US and approximately 25% of Canadian adults using the internet for training and education, appears to support the increased research in this area (Nagel, 2009; "Growth of Online Learning, n.d.).

Research regarding the effectiveness of online learning generally demonstrates that students perform as well in online environments as they do in traditional classrooms, and that they are satisfied with their online experiences (Beard et al., 2004; Suanpang, Petocz & Kalceff, 2004; Upton, 2006; Cornelius and Gordon, 2009). In fact, students who have taken an online course are more likely to enroll in another (Berge & Muilenburg, 2005).

Despite these positive findings individuals still appear to be a reluctant to learn in an online environment. Many students continue to express a preference for traditional classroom instruction particularly if they had not yet taken an online course (Berge & Muilenburg, 2005; Navarro & Shoemaker, 2000). This fact is supported in Muilenburg and Berge's (2005) study where 60.1% of students who had not taken an online course believed they could not learn as well in an online environment (p.34). In a similar study, Navarro and Shoemaker (2000) found that 49% of traditional learners were not interested in online learning because they "felt more comfortable in a traditional classroom" (p.24), while 29% felt they wouldn't learn as effectively in an online environment. Tolmie and Boyle (2000) propose that these skewed perceptions of CMC are consistent across

educational and corporate contexts suggesting "more fundamental processes are at work" (p.121).

It was these skewed perceptions, as well as my own experience with online learning, which prompted this study. Despite my high level of comfort with technology, I was very anxious about taking an online course. As well, I observed the strong reactions of my classmates when faced with the same situation. I observed diverse emotional responses which ranged from frustration and stress to casual nonchalance. This led me to reflect on my own response and ask, "Why was I worried about this form of learning and communication?" Was it the technology? Was it the perceived "loss" of rich classroom conversation and discussions? The literature suggests that these concerns are common; however advances in CMC technology should alleviate these worries…but it didn't. Why? I wanted to explore and understand more about these reactions.

Understanding how students make sense of, and come to accept, online learning may offer important insights which could assist educators and communicators when developing online learning curriculum. There appears to be very little research examining how learners make sense of this form of study or how they may conceptualize communication within a traditional classroom differently from the CMC classroom. Understanding how learners make sense of online learning appears to be significant. As Zembylas (2008) noted, the "…lack of inquiry on the emotions of learning is even more visible in online learning contexts" and Powell and Keen (2006) suggest researchers spend very little time considering what distance students are actually hoping to achieve when taking online courses.

For this study, I explored how the computer-mediated nature of online learning impacts how students' make sense of their education. I investigated questions like: Do students make sense of online courses as meaningful? Do students make sense of their CMC with professors and classmates as meaningful? What factors influence student sensemaking of online education?

Sensemaking provided an excellent framework to explore how learners felt about online learning. Sensemaking is "…how people make sense of their experience in the world" (Klein, Moon & Hoffman, 2006, p.70). The sensemaking process is initiated when individuals encounter new situations, such as online learning, and must make sense of these new circumstances (Weick et al., 2005). It is a process that is "grounded in identity construction, retrospective, enactive of sensible environments, social, ongoing, focused on and by extracted cues, and driven by plausibility rather than accuracy (Weick, 1995; Thurlow, 2009). Understanding how learners experience CMC learning environments was better understood when considered within the context of these seven psychosocial properties of sensemaking.

This study will begin to shed some light on the process in which students come to accept online learning as meaningful by speaking with graduate students who had choices about enrolling in online courses, and hearing about how they made sense of CMC learning. The results may suggest ways to improve online learning design to better support students in their journey as they make sense of this new experience, and could also provide suggestions to alleviate perceived barriers and resistance to online learning environments.

The following literature review will provide context for understanding online learning environments and students' perceptions of this form of learning. These perceptions are influenced by a number of factors including existing views about online learning from both student and academic perspectives and structural and technical factors which affect the quality of the CMC experience. The literature review will also provide an overview of Weick's (1995) sensemaking theory to better position this study and its methodology.

Chapter 2: Review of the Literature

It's estimated that the internet connects more than one billion people worldwide, and has affected communication in profound ways. It has changed how, and the speed at which, information is shared. The computer is a truly unique communication technology which performs multiple communication functions (Postmes et al, 1998, p.692). It can function as a person-to-person or group communication medium via e-mail, video conferencing or discussion forums, or as a mass communication medium broadcasting information across the internet. The following quote underscores the impact computer technology has had on communication and its rapid growth: "Internet traffic doubles every 100 days. While it took radio 38 years to establish 50 million listeners and television 13 years to attract 50 million viewers, in four years the internet acquired 50 million users" (Kent, 2001, p.60).

Computer-mediated communication (CMC) is broadly defined as, "… the transmission and reception of messages using computers as input, storage, output and routing devices" (Nawratil, 1999, Computer-Mediated Communication section, ¶ 1). These networked messages are sent "between individuals or groups separated in space and/or time" (Luppicini, 2007, p.142).

Computer-mediated communication has changed how organizations do business and the flow of information within these organizations (Kiesler, Siegel & McGuire, 1984). Individuals can now communicate instantaneously at low costs and over great distances; work is shared and reviewed easily without individuals ever having to meet; employees and managers alike communicate on an equal playing field breaking down

hierarchical barriers; and information is more accessible and difficult to control. Given these benefits, it's no surprise that educational institutions would also seek to benefit from these new technologies, in particular in the field of distance education.

Online learning has become very commonplace in many educational institutions and business organizations, and is an attractive mode of delivery. It can combine the benefits of independent learning with group-based learning (Nawratil, 1999), while providing improved access for those unable to attend classes. Many institutions offer courses that are either partially or completely delivered using online technology. In fact, there are entire programs delivered to adult learners online (Nawratil, 1999). This new trend in education has lead to a great deal of research in the area of online learning.

Computer-mediated communication technology supports online learning with text messaging, e-mailing, web browsing, blogging, wikis, computer-based conferencing and podcasting. These methods are employed either asynchronously, where learning takes place at the convenience of the learner, synchronously, where the learning is facilitated using online tools and students and teacher are online together, or a combination of the two (Nawratil, 1999). Online courses can be stand alone or a hybrid where they provide a supplement to face-to-face instruction (Larreamendy-Joerns & Leinhardt, 2006).

Common characteristics of the computer-mediated classroom include learner-centered environments where the locus of control shifts from the teacher to the students, and increased involvement and interaction of learners. It requires students to self-initiate and take responsibility for their own learning (Nawratil, 1999). It also means that students must contend simultaneously with both computers and communication; which

means their skill level with each has implications in and of itself (Brown, Fuller & Vician, 2004).

Although online education has seen tremendous growth, there are diverse views about the quality and validity of online education (Larreamendy-Joerns & Leinhardt, 2006). A history of distance education will provide a better understanding of this debate.

History of Distance Education

Online education is an integration of distance education, human-computer interaction, instructional technology and cognitive science fields of study; however it appears to be most closely related to distance education (Larreamendy-Joerns & Leinhardt, 2006, p.568). Distance education can be defined as "…various forms of study at all levels which are not under the continuous, immediate supervision of tutors present with their students in lectures rooms or on the same premises, but which, nevertheless, benefit from the planning, guidance, and tuition of a tutorial organization" (p.568). Technology plays an important role as it mediates the separation between the teacher and the learner. The evolution of distance education can be categorized in three distinct technological generations: correspondence study, multimedia distance education, and computer-mediated distance education (Sumner, 2000).

Throughout the history of distance education there appears to be three consistent themes which continue to be relevant in its literature today: the democratization of education; the tension between professional and liberal arts education; and the issue of instructional quality (Larreamendy-Joerns & Leinhardt, 2006, p.572). To follow is a brief

history of distance education and an overview of these three themes as they relate to its development.

In North America, distance education can trace its roots back to Ticknor's Society to Encourage Studies at Home correspondence program, which was founded in 1873 to provide women with a liberal education. It's credited with educating more than seven thousand women regardless of socioeconomic class and geographical location. Shortly after the introduction of Ticknor's correspondence program, the University of Chicago created a Department of Home-Study and is considered the founder of university correspondence instruction. Its goal was also to "…provide instruction for those who, for social and economic reasons, could not attend in its classrooms…" (Larreamendy-Joerns & Leinhardt, 2006, p.575). It was not long before the University of Chicago's program was duplicated at other institutions reflecting the public's demand for accessible education.

This movement towards democratization was met with criticism. There were those who believed that a university education was meant for the elite, "…devoted to the pursuit of truth and knowledge" (Larreamendy-Joerns & Leinhardt, 2006, p.575). As well, there were questions about distance education's ability to provide "…authentic communities of learners and users", a concern which is still heard today (Larreamendy-Joerns & Leinhardt, 2006, p.576).

Another reoccurring theme throughout distance education's history is the tension between professional and liberal arts education. Distance courses often need to be adapted to meet the needs of the students' training requirements in order to remain financially viable. This caused many to believe online education was better suited for

occupational training rather than a university liberal arts education. The institution's

vision of education and its model of financial sustainability often influence these two

very different objectives (Larreamendy-Joerns & Leinhardt, 2006).

The final theme, the issue of quality, is prevalent in today's distance and online

education literature. Since its beginning, distance education has been compared to

classroom learning, and instructors often try to emulate the face-to-face classroom's

ability to provide "…social interaction, prompt feedback, engaging activities,

instructional flexibility, the dynamism of a knowledgeable scholar and adaptation to

individual needs" in their online classes (Larreamendy-Joerns & Leinhardt, 2006, p.580).

When comparing these two modes of teaching, there are those who believe

distance cannot replace classroom lecture, those who argue equal effectiveness of

distance education when compared to classroom learning, and finally, those who

challenge the validity of classroom education being the standard for instructional quality.

While there does not appear to be simple answers to these issues, they have

served to further inspire research in teaching and learning scholarship as well as an

interest in students' experience with online learning.

Students' Perceptions of Online Learning

There is a great deal of evidence which suggests there should be no significant

difference in the effectiveness of online learning when compared to traditional classroom

learning (Huang 2002; Beard et al., 2004; Upton, 2006); however there seems to

significant differences in the ways students perceive their online experiences (Muilenburg

& Berge, 2005). In the 1970s Michael Moore developed a theory of transactional distance, a theory that measured students' perceptions of online learning and the relationships which exist between learners and instructors when they are separated by space and /or time (Huang, 2002; Moore, 1997). Moore believed that online learning was affected by three factors: the interaction of learners and teacher; the course structure; and the learner's autonomy.

When examining the interaction of learners and teacher, several dimensions were considered: learners to teacher, learners to learners, and learners to course content. Research showed that high levels of interaction were necessary for a successful online learning experience (Huang, 2002). Literature suggests that CMC promotes interaction, engagement and dialogue allowing students as well as instructors to lead and initiate discussions (Tolmie & Boyle, 2000). This represents a shift in the classroom's locus of control (Nawratil, 1999) and is believed to improve collaboration amongst students when control no longer rests with the instructor, and students learn from one another.

Studies often note that in CMC learning environments there are many voices and opportunities for students to be heard (Nawratil, 1999; Tolmie & Boyle, 2000). Some studies suggest students are more comfortable with in-depth discussions in CMC environments as they don't feel hindered by gender, race, age or disability. In an online environment all of the students "look" the same (Nawratil, 1999; Clark & Gibb, 2006). This anonymity allows students to participate and engage in discussions they normally would not become involved in (Brown et al., 2004). This effect is magnified by students having the time and space to reflect before responding to discussions (Tolmie & Boyle, 2000). In Clark and Gibb's (2006) study one student responded, "…I didn't feel as shy

and I probably contributed more than I would have if I was in a normal classroom"
(p.781).

In addition to high levels of student and teacher interactions, Moore noted that the course structure of successful online courses needed to be organized yet flexible enough to meet individual needs (Huang, 2002). And finally, Moore argued that online education required learners to take a high degree of responsibility for their learning; therefore learner autonomy affected the success of an online course.

The factors for student success identified by Moore appear to be consistent with several studies on students' perceptions and attitudes towards online learning. Students cite the advantages of online learning as having the flexibility to learn when and where they want, achieving a sense of accomplishment following the completion of their course, and feeling less inhibited during class discussions (Beard et al., 2004; Cetindamar & Olafsen, 2005; Upton, 2006; Cornelius & Gordon, 2009). They also feel that online learning is more efficient than traditional learning, as well as cost effective.

Disadvantages of online learning tend to be more social in nature. In CMC environments the lack of social cues and non-verbal feedback can impede communication (Kiesler et al., 1984). In online courses, learners may sometimes feel isolated and miss the benefits that arise from the exchange which takes place in regular face-to-face classroom settings (Beard et al., 2004; Cetindamar & Olafsen, 2005; Clark & Gibb, 2006). In traditional forms of communication, behaviours such as smiles, tone of voice and eye contact provide important cues which facilitate the development of rapport and improve understanding. Some students see the lack of these non-verbal cues as a barrier to communication and find it difficult to develop trust and comfort with one another.

Other studies suggest this social anonymity, said to depersonalize communication, may contribute to communication becoming less inhibited (Kiesler et al, 1984; Walther, 1995). This "…increased freedom of the individual associated with CMC may increase antisocial behavior or decrease the regulatory function of social norms" (Postmes et al, 1998, p.693). This can lead to increased "flaming", aggressive and hostile language.

Other disadvantages identified by students are related to their own learning style and personal motivation (Clark & Gibb, 2006; Upton, 2006; Cornelius & Gordon, 2009). Many believe students with a high level of intrinsic motivation, motivation derived from the inherent satisfaction of completing a task, and an internal locus of control, the belief that their efforts are directly related to their rewards, are more successful in online learning environments (Drennan et al., 2005; Martens, Bastiaens & Kirschner, 2007). Intrinsically motivated students typically demonstrate explorative, reflective and self-regulated learning behaviours, which have been shown to directly affect students' success in online learning. As well, an internal locus of control is particularly important in online learning environments where independent study is required.

Upton's (2006) study appears to reinforce this concept as students consistently remarked that online learning required more commitment and active learning than traditional classroom learning, with 12% not enjoying the responsibility of learning at their own rate (p.26). Clark and Gibb (2006) had similar findings with 40% of the students reporting the level of commitment needed to meet virtual deadlines as an issue which affected their learning process. The students in Muilenburg and Berge's (2005) study cited the lack of social interaction as the single biggest barrier to learning online

(p.35) with instructor and administrative issues, time and support, and learning motivation following closely behind.

Finally, students' confidence and comfort with CMC technology impacts their satisfaction with their online course and the quality of their learning experience (Huang, 2002; Beard et al., 2004; Clark & Gibb, 2006). In fact, Huang's study (2002) found this to be a critical factor influencing learners' success. Upton (2006) found that students' IT proficiency also had a significant impact on their ability to meet their deadlines, particularly at the onset of the course, and those with higher levels of comfort and confidence perceived fewer barriers overall. Drennan, Pisarski and Kennedy's (2005) study of student attitudes found although technical proficiency was indirectly related to course satisfaction at the beginning of the course; it did not relate to satisfaction at the end (p.337).

Factors Affecting Students' Performance

As previously discussed, students report satisfaction with their online learning experiences and research suggests there is no significant difference in the learning effectiveness of online learning and learning in the traditional classroom (Beard et al., 2004; Suanpang, Petocz & Kalceff, 2004; Upton, 2006; Cornelius and Gordon, 2009). In fact, Suanpang et al. (2004) found that students' attitudes towards the course content became more positive, their ability to solve problems improved, and their confidence in the course material grew as the online course progressed. This was a striking contrast to

the students in the on-campus course where their abilities, attitudes, and confidence remained unchanged at the end of the course (p.14).

Despite this positive feedback and support for online learning, many students report that they prefer traditional classroom learning to online learning (Beard et al., 2004; Suanpang et al., 2004; Upton, 2006; Cornelius and Gordon, 2009). This fact is demonstrated in Muilenburg and Berge's (2005) study where 60.1% of students who had not taken online courses believed they could not learn as well online (p.34). In a similar study, Navarro and Shoemaker (2000) found that 49% of traditional learners were not interested in online learning because they "felt more comfortable in a traditional classroom" (p.24), while 29% felt they wouldn't learn as effectively in an online environment.

There have been studies which examine students' feelings about online learning. As noted earlier, CMC has resulted in students having to deal with both computers and communication simultaneously when enrolled in online courses (Brown et al., 2004). Research suggests there are individuals who experience computer anxiety, or technostress, as well as those who experience communication anxiety; therefore it's important to consider the nature of the communication (e.g. social vs. task) and the environment (e.g. anonymous vs. identified) when studying CMC use. A study commissioned by Dell Computers concluded that "55% of Americans suffered from some degree of technostress" (Scott & Timmerman, 2005). Students who are affected by these stresses are more likely to avoid using CMC and may be at risk and disadvantaged in these environments. This could be a contributing factor which explains why students in Muilenburg and Berge's (2005) study who had not taken an online course perceived

significantly higher barriers to online learning compared to those who had studied online (p.41).

There are also many structural factors which can affect the quality of CMC (Tolmie & Boyle, 2000). It appears smaller group sizes facilitate better and more equal use of the CMC technology. The quality of the communication is also improved if group members know each other. In the absence of social, face-to-face cues, participants in the smaller, familiar groups may be less self-conscious communicating online. Or, the lack of participation may be more noticeable pressuring them to contribute. Task clarity and ownership is also important in CMC environments. When the task is clear it provides participants with direction and understanding of required behaviour in the absence of social communicative cues. And finally, there has to be a clear function for CMC which cannot be fulfilled by other communicative means.

To manage some these structural factors, activities such as "structured online discussion, collaborative online activities, online assessment and interactive course material" are often recommended as student-centred teaching strategies to maximize online effectiveness (Gulati, 2008, p.184); however students' comfort level in the online environment may be compromised when they are required to participate in these discussions. Some learners will not engage in online discussions because they do not feel connected with their groups and are afraid to voice their opinions or challenge the views of others (p.187). These students may choose "silent" participation or "lurking" to remain in their "safety" zone, or adopt other communication methods they feel are more effective (Tolmie & Boyle, 2000).

The influence of these factors can also be seen in Zembylas's (2008) study which explored how adult learners new to online learning talked about their emotions during a year-long online course. It focused on how these learners' emotions were constituted in the online environment and how talking about their feelings helped to make sense of this new experience (p.75). As expected, he found both positive and negative emotions expressed by the students. Positive emotions were categorized as "joy/enthusiasm/excitement for the flexibility of online learning; pride/contentment for fulfilling the course requirements; and surprise /excitement for the emotional nature of online communication" (pp.76-77). The general excitement for learning online gradually faded as time progressed and was replaced with feelings of security knowing support was readily available, and satisfaction with the relationships which were developing with the other students. Pride was expressed not only in relation to being able to fulfill the course requirements but also with the development of organizational and self-discipline skills. Finally, many students were pleasantly surprised they could develop strong, supportive relationships in an online environment.

The negative emotions expressed by the students were centred around "fear/anxiety for the unknown methodology of online learning; alienation and the need for connectedness; and stress/guilt about the inability to balance multiple roles and responsibilities" (Zembylas, 2008, p.77). The anxiety expressed appeared to be related to using new technology as well as having to communicate via written e-mails for fear they, and their ideas, may appear "stupid" (p.79). Alienation and loneliness was more often identified in the first eight to ten weeks of the course as students grappled with finding ways to communicate with each other. Some students also felt isolated in relation to the

amount of independent learning that was required for the course. The single largest barrier for these students was related to their struggle to balance multiple roles, a struggle which seemed to be intensified in the online environment. One student wrote, "…the feeling of isolation invokes feelings of stress because of the lack of face-to-face communication" (p.81). It's interesting to note that female students in this study appeared to be affected more profoundly by this struggle than their male counterparts (p.81).

While a number of negative experiences can be somewhat controlled with careful course planning and support for students, Gulati concluded that CMC is complex and educators must remember to consider how learners' "make sense of the world around them" (p.189) and develop online curriculum which respects their many ways of learning.

Overview of Sensemaking

"Sensemaking involves the ongoing retrospective development of plausible images that rationalize what people are doing" (Weick, Sutcliffe & Obstfeld, 2005, p.409). Or more simply, sensemaking is "…how people make sense of their experience in the world" (Klein, Moon & Hoffman, 2006, p.70). Sensemaking is a process that is "grounded in identity construction, retrospective, enactive of sensible environments, social, ongoing, focused on and by extracted cues, and driven by plausibility rather than accuracy" (Weick, 1995, p.17; Thurlow, 2009, p.257).

Individuals are driven to develop a positive sense of self. As they encounter new situations they must re-define or reconstruct aspects of their identity to maintain this positive self-concept (Weick, 1995). This process requires them to reflect on their experience to create meaning or make sense of the experience. All of this takes place in

ever-changing environments in which their actions create situations they must respond to while being influenced by the social presence, real, imagined or implied, of others. To respond to changing environments, individuals extract cues to make sense of what is occurring in an ongoing process that never ends. And finally, their understanding of these experiences is based on what is plausible or reasonable, not necessarily accurate. These seven properties do not occur in a linear sequence; they can occur at the same time and may not always be observed in the sensemaking process.

Sensemaking provides an excellent framework to explore how learners experience CMC environments. "Interaction with technology requires people to make sense of it; and in this sense-making process, they develop particular assumptions, expectations and knowledge which then serve to shape subsequent actions towards it" (Gephart, 2004, p.479). Weick suggests that electronic processing has made it even more difficult to "understand events represented on screens" (McAulay, 2007, p.389). When trying to adapt to technological change in their environments, individuals use "psychological, social and instrumental" means to make sense of this new technology and to restore their sense of equilibrium (Bruque, Moyano & Eisenberg, 2008).

As explained, the sensemaking process is initiated when individuals encounter new situations, such as online learning, and must make sense of these new circumstances (Weick et al., 2005). Understanding how learners experience CMC learning environments will be better understood when considered within the context of these seven psychosocial properties of sensemaking.

Chapter 3: Research Rationale and Design

The literature review provided context for better understanding perceptions and factors which influence students' experiences with online learning. It also provided an overview of Weick's (1995) sensemaking theory to better position this study and its methodology. To follow is a description of this study's research rationale, design and questions, and the interview and analysis process used.

Research Case Study and Site

This case study employed a qualitative research methodology (Denzin & Lincoln, 2005), in-depth interviews (McCraken, 1998), to investigate the research questions outlined below. According to Yin and Heald (1975) case study is concerned "with the analysis of qualitative evidence in a reliable manner" and allows the researcher to "note the various experiences found" and "the frequency of occurrences of these experiences" (p.372). They also note that this method has many parallels with content analysis for communications research.

Students enrolled in the public relations graduate program at Mount Saint Vincent University (the Mount), Halifax, NS were chosen for this study for a number of reasons. The Mount was founded on the tradition of educating women, and providing access to those normally unable to obtain a post-secondary education. An environment scan showed that in September 2006 there were 2329 students enrolled in full-time studies at both the undergraduate and graduate level, and 1891 enrolled part-time, for a total of

4220 students (Environmental Scan, 2006). Of these 4220 students, 79% were female and 72% were between the ages of 21 and 49. These demographics provided a community of adult learners and have led the Mount to becoming a leader in distance education in the Maritime region.

To meet its objective of providing accessible education, the Mount has delivered distance education courses for close to 30 years, and offered 222 distance education courses during the 2010- 2011 academic year. The delivery modes for these courses included teleconference, television, and/or the web. Multi-mode courses included one and half contact hours/week using teleconference, on-line chat or a virtual classroom, Elluminate *Live!*. The PR graduate programs began offering online classes in the fall of 2009 with the entire program now available online as well as in the traditional classroom. For this reason the PR graduate programs were selected to provide a cross-section of students who: only took online courses; only took face-to-face courses; or a mixture of both.

According to Weick (1995) the seven properties of sensemaking are reflected in the question "How can I know what I think until I see what I say?" (p.18). Language is used by individuals to enact events and construct meaning (Thurlow, 2009). The PR graduate students have strong communication skills. The qualitative approach of in-depth interviews allowed them to reflect on their experiences as students and provided rich interview material for analysis as they described their experiences with online learning.

Sensemaking provided a framework which recognized that there was no "right" answer and that "actions and beliefs are driven by plausibility, not accuracy" (Thurlow, 2009, p.259). This framework was important to provide some understanding as to why

students might resist online learning. Weick suggests individuals may determine the plausibility of their options "…when there are no better alternatives, other individuals seem enthusiastic about this alternative, other individuals or organizations have taken this same perspective, and/or this explanation resonates most closely with existing identities and perceptions" (Thurlow, 2009, p.259). It's clear from the literature review that many factors influence the plausibility of online learning being as meaningful as traditional classroom learning.

Research Questions

This study explored how the computer-mediated nature of online learning impacted how students' made sense of their education. It investigated questions like: Do students make sense of online courses as meaningful? Do students make sense of their CMC with professors and classmates as meaningful? What factors influence student sensemaking of online education?

Interviews

To answer the research questions, students were asked to participate in one-on-one, in-depth interviews where they could describe their experiences with learning in CMC environments. An e-mail invitation was sent to all PR graduate students describing the study and the process for participation. Signed consent forms were included with this invitation and students were asked to self-identify. They were directed to contact the

researcher by phone or e-mail if they were interested in participating, or wanted further information. The learners' were informed that participation was entirely voluntary and participation could discontinue at any time. They were also informed that their participation was confidential and that there was no grade associated with this research nor was there any compensation.

Prior to actual participation in the interview, the purpose of the study was reviewed once more, reiterating that this study was not in any way related to the courses they were taking. All learners were asked to review and sign a consent form that outlined the purpose of the study and the nature of participation, and ensured confidentiality and anonymity in the report. They were once again reassured that participation was completely voluntary and that non-participation did not result in any consequence. They were asked to participate fully in the discussion; however participation was voluntary in nature, and they were free to not respond to any questions that made them feel uncomfortable. The learners were also informed that they were free to cease participation at any time.

The interviews were audio taped and were approximately sixty minutes in length. The interviews explored students' feelings about learning in CMC environments and how they made sense of this learning environment. As seen in the Appendix II Interview Guide, the interviews were semi-structured and used a combination of 'grand tour' and 'mini tour' questions and prompts (Spradley, 1979). Each interview began with the simple request, "Tell me about your experiences with online learning." Follow up questions were posed based on the flow and direction of the conversations, for example, students' were often asked to elaborate on their comments. This allowed each participant

to make sense of their experience in their own way with little influence from the researcher. Additional questions about engagement with the material and quality of the experience were also posed in response to the students' own sensemaking which emerged as they described their experiences.

During the interviews it was critical for the researcher to ensure that each learner was treated with respect and given an opportunity to voice their feelings and perspectives. When inviting responses or elaboration on comments it was important to pay special attention to non-verbal cues that indicated an unwillingness to respond. It was important to "protect" the learners and ensure they were not feeling pressured in any way.

As a student in the PR graduate program, the researcher had been a classmate of, or acquainted with, most of the students. This appeared to improve communication as rapport and a certain degree of trust had been established through previous interactions. Overall, the students appeared to feel very comfortable and willing to share their experiences with online learning in a frank and honest manner.

It was hoped that a cross-section of students who had taken only online courses, only face-to-face, or a combination of the two, would respond. The e-mail invitation generated five responses from students who had a taken a combination of face-to-face and online courses. Four of these students were at the end, or near the end, of their degree while the other had only taken a few courses. All of the students, with the exception of S1 were female, and all were approximately 30-50 years of age.

After completing the first five interviews, a sixth female distance student near the beginning of her degree, was approached directly and interviewed. After this sixth

interview, "theoretical saturation" was achieved and interviews no longer yielded new experiences (Charmaz, 2008).

Each interview was transcribed by a third-party. Once the interview transcripts were received, the researcher listened to each interview several times to ensure accuracy and to increase familiarity with the interview material including content and tone. The transcripts were also sent to the respective student inviting edits and additions. All students reported satisfaction with the information and did not offer any edits or additions.

Analysis

Following a close read, the interview data was first coded using eleven categories found in the literature review related to factors affecting students' perceptions of online learning as well as a miscellaneous category. Once the initial categorization was complete and summarized a thematic approach was used to develop themes which described the students' journey of resistance to acceptance of online learning.

To better understand the sensemaking process employed during this journey, the students' interviews were then coded for the seven psychosocial properties: identity construction, retrospective, enactive of sensible environments, social, ongoing, focused on and by extracted cues, and plausibility (Weick, 1995). As Weick explains, these seven properties do not occur in a linear sequence and some may be more evident than others. This was certainly true in this case study.

Chapter 4: Analysis

Making Sense of the Journey

To begin the analysis, interviews were coded using eleven categories found in the literature review related to factors affecting students' perceptions of online learning. These categories were student characteristics, learning preferences, comfort with technology, comfort with CMC, level of interaction, advantages of online learning, course structure, and balancing roles. Categories related to avoidance, power, and quality as well as a miscellaneous category were also considered in this initial analysis. Students' quotes were moved into the category that best matched the experience being described, and were not coded to more than one category. During this initial coding some categories were combined or broadened based on the data from the interviews: student characteristics and learning preferences were combined as they appeared to be very similar; comfort with CMC was given a broader heading of CMC as the discussions did not describe comfort with technology but rather the nature of the CMC itself; and class structure was expanded to include professors' teaching style.

Once the initial categorization was completed, the data was summarized and three themes became apparent. Students talked a lot about their initial *resistance* to online learning. This initial resistance changed to eventual acceptance and embracement of the new learning environment. When talking about this journey of resistance to acceptance, students reflected on their own *identities* as students and professionals, their relationships with their classmates, and the identities they attributed to their professors', and described

how these identities changed and adapted to the online environment. This identity construction was central to their eventual acceptance of online learning as meaningful, and was influenced by factors related to their *overall experience* such as course structure.

As students described their journey, Weick's (1995; 2005) sensemaking process was evident. These students were able to provide valuable insights into their decision-making process when making choices about enrolling in online courses and the analysis of their experiences provided important information about the sensemaking process they used to understand their online learning experiences. Individuals begin the sensemaking process when they experience an interruption to their projects and flows which triggers an emotional response (Weick, 1995). Prior to their online experience, most of the students in this case study attended face-to-face classes and had intended to complete their program in this traditional manner. At some point during the course of their program they found themselves faced with a choice: enroll in an online course or delay fulfilling their degree requirements while waiting for the next face-to-face course offering. This shock created an interruption to the flow of their education which initiated the sensemaking process.

To better understand the sensemaking process, the students' interviews were also coded for the seven psycho-social properties: identity construction, retrospective, enactive of sensible environments, social, ongoing, focused on and by extracted cues, and plausibility (Weick, 1995). As Weick explains, these seven properties do not occur in a linear sequence and some may be more evident than others. In this study, identity construction, retrospect, and plausibility emerged as the most prominent properties, with social, ongoing, enactive and extracted cues presenting in supporting roles.

When reflecting on their initial resistance, participants considered their identities as students in relation to previous learning experiences. It was difficult for them to imagine how they could be successful in an online learning environment. These descriptions of resistance highlighted identity, retrospection, plausibility and extracted cues as the most evident sensemaking properties as they worked their way towards acceptance of online learning.

Identity construction was not only evident when students described their resistance, but also when they talked about their eventual acceptance of online learning. Participants expanded their conception of 'student' to fit the new learning environment. During this journey of acceptance, the plausible, social, retrospective and enacted nature of sensemaking, as well as extraction of cues, was apparent. Their identity construction was influenced by factors related to their overall experience which demonstrated identity, social, enactment, extraction of cues and ongoing properties of sensemaking. Figure 1 provides a visual representation of the sensemaking properties as they relate to the three themes of resistance, identity and overall experience. The prominent sensemaking properties are represented by solid lines, while the properties which presented in supporting roles are depicted by broken lines. A supporting role was identified when a property was present in the data but not the primary focus of the participant's statement.

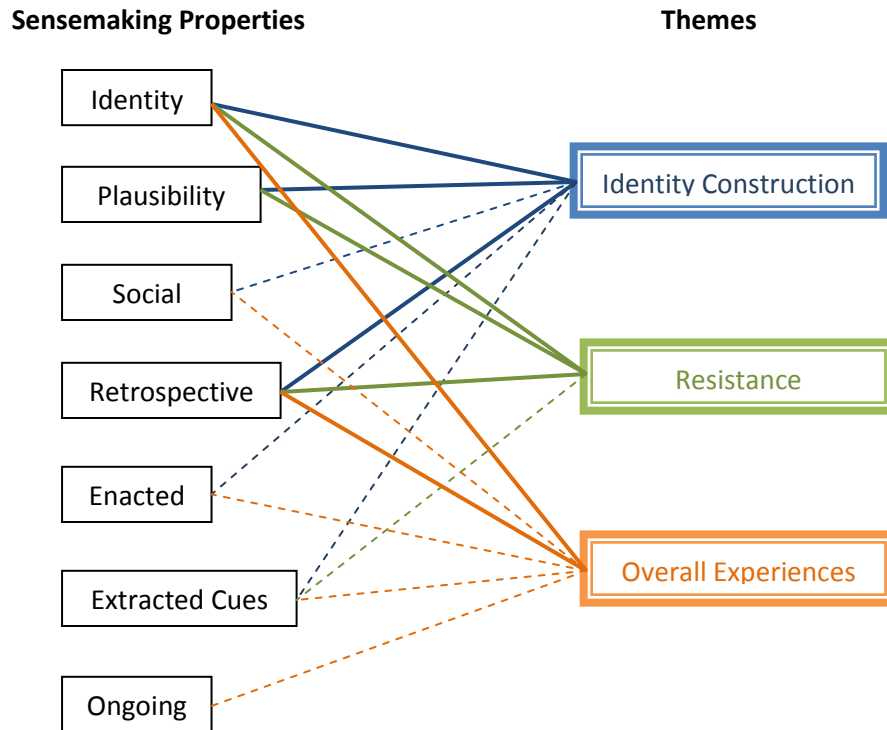**Sensemaking Properties**　　　　　　　　　　　**Themes**

Figure 1. Student process of making sense of online learning.

To follow is an analysis of the students' sensemaking process and a discussion of the journey which lead the students from initial resistance to eventual acceptance of online learning.

Identity

> *Once I know who I am then I know what is out there (Weick, 1995, p.20).*

Weick (1995) describes "…the establishment and maintenance of identity [as] a core preoccupation in sensemaking" (p.20). Individuals are driven to maintain a consistent, positive self-image. Weick draws upon Cooley's notion of the looking glass

self where individuals live in the mind of others to describe self-image. People imagine

how others will view them and try to anticipate the judgments that will be made. The

importance and weight of these judgments depends on the individuals' perception of the

importance of those who are judging them. Identity construction was prominent in this

study which is consistent with Weick's theory of sensemaking.

The students' in this study defined their identity as a graduate student by their

relationships with their classmates and professors. Students believed this identity was

influenced by their ability to have face-to-face, scholarly discussions, and described these

activities as consistent with their perceptions of graduate-level studies and meaningful

learning.

> S5: I thought the face-to-face was probably more valuable and
> how on earth are we going to have that learning experience
> that comes from talking to people face-to-face and that
> exchange of ideas and the dialogue. So I was skeptical and I
> was nervous.

It was very evident that students strongly valued the relationships and connections

developed in face-to-face environments. They believed face-to-face discussions held

more value and wanted to learn from their classmates' and professors' experiences. These

interactions were viewed as part of their identity as a learner.

> S1: I want to be in touch with students, like physically in the
> same room, and I tried at first to avoid it… I thought if I'm at
> the Mount I don't want to lose this direct contact to the
> students and the professors if you have ten or fifteen students
> in the class. So I thought at first well I don't want to do it
> because the reason why I went here physically here, is to be
> here physically.

> Yes, the contact. You know, this is my professor, that's her name. I can talk to, let's say, Thomas is my professor, it's his first name. I can say "well Thomas, I'm Richard. I have a problem with that." Not because I'm stupid, just because I want to get more experience from his side.

Weick (1995) suggests that the "…sensemaking process begins with a self-conscious sensemaker" (p.22). Individuals will initiate the sensemaking process if their positive sense of self is threatened to reduce the discomfort they are feeling. Students' found that their perception of learning didn't quite fit with the online learning environment; therefore, as students began their online courses they developed new identities as online learners. One student described himself as having a slightly different personality online. "…you have a different, maybe identity online…sometimes you're more cheeky…you use smiley faces so you kind of mitigate what you were saying before, but yeah, it's different." They needed to find a way of interacting that was comfortable and consistent with their perception of identity.

Initially most were doubtful anyone would truly get to know them in an online environment, and this created anxiety as they believed it was important for professors and classmates to see they were serious, committed graduate students.

> S3: I guess that was one of the reasons I was so nervous is that I was worried that they wouldn't understand who I was as a person if they never met me...I'm a dedicated student and very diligent. So I was worried that [the professor] wouldn't understand who I am as a student, as a person, as a professional.

In online environments a great deal of emphasis is placed on written work for evaluation. To maintain a positive sense of self individuals will influence and shape their environment and the reactions of others (Weick, 1995). As a result, writing played a large role in the students' online identity construction. They believed their personalities were conveyed through their written work. They also found this changed the nature of their contributions and comments as the writing took on greater importance than in face-to-face environments, and became a source of anxiety.

> S3: I did absolutely. And it didn't matter whether it was a comment on Moodle, or whether it was a comment on the blog, or whether it was peer feedback on our capstone assignment - I did it all in Word. I edited it... my professor was very strict on word count too. So I would want to make sure that I was abiding by the word count as well. I'm very much a rule follower so I would want to do all of that in Word, make sure there were no spelling mistakes... So I was very cautious, very thoughtful about the work that I did for an online environment.

They wanted to ensure their online communication reflected their identity as professional communicators and believed poorly written work affected their credibility and reputation as students and professionals. "So if I find spelling mistakes all the time, grammar problems, I would say, 'Listen we are in a communications profession. It's PR, so we need to know how to write.' "

Weick also suggests that individuals learn more about their identities from the reactions of others, "How can I know who I am until I see what they do?" (Weick, 1995, p.23). As the students became more comfortable in online environments, they believed they were able to get a sense of their classmates' personalities.

S5: I didn't feel, I didn't feel like I was getting to know them really well but I felt like "hmm, I have a good sense of where, you know, if I saw, say Jane's blog responses, all three of them, I might have a better sense of who you are as a person."

They also believed they were able convey their own personalities, through their written work. This was important for their sense of identity as a graduate student.

S3: But I do think that the online learning format helps convey [my identity as a serious student]. Just through, I guess through my assignments, through my interaction on the blog, through posting other emails or questions on Moodle. Showing that you were engaged and that you were engaging with the material, engaging with your peers.

As students reconstructed their student identity, it became plausible that online learning was as meaningful a learning experience as face-to-face learning.

S2: Part of it, you know, it's like anything new – you have to get used to it. So I feel like I've, you know, the next distance course I take it'll just be that much more familiar or you know, and same with the asynchronous format is fine too. I'm certainly not opposed to that either.

Plausibility

A reasonable position to start from in studies of sensemaking is to argue that accuracy is nice, but not necessary (Weick, 1995, p.56).

Weick (1995) argues that individuals must simplify situations in order to act quickly. To do this, they must filter information to make new experiences more understandable; therefore their understanding of these experiences is based on what is plausible or reasonable, not necessarily accurate. The plausible nature of sensemaking was very evident as students described their journey towards acceptance of online learning.

When the students found themselves faced with the choice of enrolling in an online course or waiting for the next face-to-face offering they began the sensemaking process. Initially many believed they would avoid online learning; however their desire to continue with their degree was stronger than their desire to avoid online learning. It was no longer plausible to avoid online learning. As a result, they began to make new sense of online learning and reframed the negative of learning online into a positive experience. They began to see it as way to progress rather than an obstacle to avoid. Some even began to look at online learning as an opportunity to learn new skills and technology.

> S3: And then I thought, "Oh well, I really want to keep plowing ahead with the degree" so the only option for the summer course was actually an asynchronous course and I didn't even really think twice about it I just thought, "Well, I basically have to challenge myself to learn online. It's the wave, it's the way things are going, it's the wave of the future I guess."

Initially students were concerned that it would be difficult to connect with each other and the material because of the distance between them. These connections were important to their sense of identity and their perception of quality learning. "But I thought

I can't, because I thought there's a distance between us. Um, well it's because you cannot

see somebody."

Once they began their online course they realized they could easily connect with

each other outside of the classroom and the online environment became less of a barrier

to their learning.

> S5: Um, I think early in the course, early in the program it was
> important to me to have those discussions. But I knew a lot of
> the people who were in the course so it was easy to have those
> discussions outside of the classroom.

Students described the quality of their online experience as equal to, if not better,

than some of their face-to-face experiences. They often attributed this to their

engagement with the course material. When discussing plausibility, Weick (1995) states,

"…people will believe what can account for sensory experience but what is also

interesting, attractive, emotionally appealing, and goal relevant" (p.57). They were so

satisfied with these experiences that it became plausible that they were learning as much

in an online environment as they did in a face-to-face classroom with lively discussion.

> S3: But I was just so engaged with my subject matter that I, I
> think I was more drawn to that learning opportunity in spite of
> my trepidation. Yeah, I was just more engaged with it, it just
> really resonated with me. So I would say if I look at the three
> courses I've taken I would say that they were equally well done
> and that I came out with the same level of education, same
> quality.

Most of their participation was the result of mandatory activities as part of the

course evaluation. They believed that without these mandatory assignments it's unlikely

they would have had the same level of interaction which would have adversely affected their overall satisfaction with the course. The inclusion of mandatory components made participation online plausible for them.

> S2: It's a really good question. I think it almost needs to be mandatory because I think otherwise people are reluctant. And I think you've hit on something for me. I would be reluctant to just post a comment because I would be worried about what the professor was thinking about me.

"Sensemaking is about the embellishment and elaboration of a single point of reference or extracted cue" (Weick, 1995, p.57). To make this linkage, individuals draw on their previous experiences in which accuracy is affected by time and memory. As previously described in the *Identity* section, students believed their written work reflected their identity in the online environment. Although this created some anxiety for them, they felt this increased emphasis on the writing improved the quality of the online discussions which made it plausible that online learning was as good, if not better, than face-to-face learning.

> S5: I felt, I felt I learned more from having that mandatory component rather than sitting in a classroom and maybe gazing out the window for three hours. Or, listening or trying to participate in a discussion that, was, just wasn't relevant [laughs].
>
> That for me… that's what makes the asynchronous learning that much more valuable for me. It forced people who may not have had the experience to be a little more analytical and a little more thoughtful. And they're really going to have to think about, they're going to have to draw on something to make their blog relevant. I thought their responses were quality, more quality than the discussion in the classroom. They're forced to

do it because how else could they, how else could they actually post something that would have been of the same quality of someone else's?

Students also began to look at the convenience of online learning as a benefit which fit their busy lives and learning preferences. While they acknowledged that some of these benefits could also be enjoyed in a face-to-face classroom, it felt more obvious in an online learning environment. This added to their acceptance of online learning.

> S3: Because I really felt that I was in control. I don't know if that says I have control issues [laughs] but I just felt that I could go along at my own pace and that yeah, it was just within my own control. I knew exactly what was coming, what was expected. But that said, I had the exact same experience in the theory class. I knew what was expected and what readings I had to do but it was in a classroom environment. But I just felt that you're more in control of your learning when it was asynchronous. I don't know if that makes sense or not.

It's interesting to note that students believed that online learning may be better suited for some courses than others. The plausibility of this belief seemed rooted in the social aspects of learning or the ability to have face-to-face discussions with classmates and professors.

> S4: Online, it's um actually a good way to do it. You could accommodate that because the attention is on the actual work whereas in the ethics course the attention is on the discussionable items of ethics, of establishing positions of what ethics is, or what it is not, all that kind of stuff. So it was more arbitrary. Whereas with the stats because of the very nature of the actual content, you know. And history, you could do a history class online because you know in 1682 something happened and in 1885 something happened. Um, so yeah

you're looking back on something. So yeah the stats course
could easily be taught online.

Social

> *Conduct is contingent on the conduct of others whether those*
> *others are imagined or physically present (Weick, 1995, p.39).*

According to Weick (1995) the social aspects of sensemaking cannot be ignored.

"Sensemaking is never solitary because what a person does is internally contingent on

others" (Weick, 1995, p.40). When describing their learning experiences, students in this

case study often talked about the relationships they developed in face-to-face

environments. They were unsure how they would enjoy an online environment where

they did not feel they would experience the same positive social interactions. These social

interactions were linked closely to their conceptions of learning.

> S1: I want to sit with other people in the class. I want this
> academic, um, exchange of ideas immediately. Like in my
> thesis defense, the same. People listen to it, they have it in their
> minds, and they answer … well they contribute to the
> conversation. I don't see this so much online.

Although the students believed they made connections with their classmates and

professors, the CMC environment felt different to them and they talked about these

differences at length. The students were reluctant to reach out to people they didn't know,

despite feeling a responsibility to support each other and to create their own learning

groups. As a result they became more mindful and deliberate about developing

relationships.

> S3: And there isn't the same human connection at first if you don't foster it. So I do believe that we have a responsibility to each other to help each other learn by connecting and by reaching out.

Weick (1995) suggests individuals "pay a lot of attention to talk, discourse, and conversation because that is how a great deal of social contact is mediated" (p.41). Students frequently commented on the challenges of establishing relationships with their classmates in the online environment. They only seemed to connect with each other when there was a specific reason and only with the students most "like" themselves.

> S1: …you pick immediately after maybe two or three posting sessions the students you like and, and I did it. I started communicating with them outside the environment, but still about the topic.

In their minds, the other students faded into the background. They compared this feeling to a traditional classroom where you can't help but have some kind of awareness of all the students in the room.

> S1: …if you sit in a room and have nineteen you just feel them, even if they don't do anything… But online, you just see the names and you kind of, they kind of faded out.

The literature often highlights increased interaction of learners with teachers as one of the many benefits of online learning (Tolmie & Boyle, 2000). This did not seem to be the case in this study, and the students missed the interaction with professors in the online environment.

S2: But I wrote to the professor afterwards, "I really would like, you know, when I think about that class I'd really like to sit down and learn more. I would like to hear more of your stories. I think that there is a lot more that I could learn from hearing about your experiences." And I just didn't feel like that [the online] format allowed for that.

Despite the reduced social interaction, students identified times when they felt they were able to connect with their classmates and professors. The students enjoyed professors' podcasts and believed videos provided them with a human connection. When they were able to make these connections, they seemed to feel more comfortable and engaged. This highlighted that there were times when face-to-face communication was important for the students.

S3: …you could feel [the professor's] excitement about this learning opportunity…So it would have been completely different had she just said, "Oh there's this learning opportunity…". She put a face to it.

Students found themselves pleasantly surprised at their comfort level and their ability to collaborate with their classmates and professors. To these students, interacting with classmates and professors was an important characteristic of meaningful learning.

S3: As I say, it was, it was surprising for me because I was very trepidatious [sic] and I acknowledged that right up front. Through Moodle we have our profiles and I acknowledged, I said "this is my first online learning experience I'm …" I think I said, "I'm trepidatious, I'm a little bit nervous about this experience." And there were other people that voiced the same concern so that made me feel more comfortable. So we were in

it together, even though we didn't meet face-to-face, we were in it together.

Students who experienced a blended course enjoyed the added dimension of interpersonal communication, hearing their classmates' voices over the internet. This appeared to strengthen connections.

> S3: So she was online and, so we have a bit of human, well there's information, there was a human connection because she told us about where she is and what she's doing. There were people from Ottawa. One woman was in Antigonish, another was from Calgary. So I feel like there was that human connection made that now I wouldn't be as reluctant as I was in the first course to reach out to say, "How are you doing? How are the assignments coming along?" So I think I prefer, so far, one class hard to say, I preferred that.

"Sensemaking is also social when people coordinate their actions on grounds other than shared meanings as when joint actions are coordinated by equivalent meanings…" (Weick, 1995, p.42). Other students compared their asynchronous and synchronous experiences. One student reported feeling more connected when classmates were online at the same time. She felt her learning was enriched by a sense of community and learning from others.

> S4: …you saw that fifteen people were all listening at the same time so that was good. It almost, in the back of your mind, there was a sense of community, dare I say?

Although students did not believe they developed strong relationships with their online classmates, it did not seem to reduce their satisfaction with their learning. Upon

reflection, they believed engagement with the course material more than compensated for the change in the class's social interaction.

Retrospective

> *...people can know what they are doing only after they have done it (Weick, 1995, p.24).*

Sensemaking occurs when individuals experience an interruption to their projects and flows which triggers an emotional response (Weick, 1995). When a response occurs individuals seek a plausible explanation. In other words, we respond first and then look back to figure out why. What individuals see when they look back is influenced by their present experience and is affected by their memory. When these students made sense of their online experiences the retrospective nature of sensemaking played a role.

When students described their experiences with online learning, they reflected on their initial resistance to this form of learning. In sensemaking, "…people tend to be more interested in confirming than in rebutting" their beliefs (Weick, 1995, p.145). Students often compared online learning to their previous face-to-face learning experiences as they had no other point of reference to make sense of this new form of learning. One student compared online learning to his undergraduate experience at a large school. In the absence of dialogue and discussion he perceived this learning as less meaningful.

> S1: I think I went to the Mount because I came from a
> university where you have a thousand students in a classroom
> and because there's not enough space they have a video camera
> and you can listen, you can watch and listen, from another

room. And then when I came to Halifax, I thought well
[another school] is nice, but it's kind of the same atmosphere.
Well it's five hundred or two hundred students and I don't
want this, I'll go to the Mount.

While most of the students interviewed initially reacted negatively to online courses, one student had a very positive response. She lived outside the province; therefore distance education was the only viable option available to her. This student's very different and positive reaction to online learning is explained by how she made sense of this change in her circumstances. Online courses offered her a way to complete her projects and begin classes in a program she had been waiting for.

S6: It wasn't a hard decision to take courses online. It's the
only reason I enrolled in the program. I live outside of the
province, work full-time and have a family. I could not get this
education without it being offered online, and in fact I have
been waiting for the program to be available online.

Once students were faced with the choice of taking an online course, they began to retrospectively make sense of this shock by examining their definitions of meaningful learning and student identity. When they chose to enroll in an online course their definitions changed to fit the online environment.

S2: And for me it was a huge departure from the way that I like
to learn, which is seminar, discussion, that kind of course
where I need the acknowledgement of the professor or my
peers that, you know, that they're engaging and the eye
contact, that they're nodding – whether they agree with me or
not. It's like this, I tend to seek this nod of understanding so
that I know, that I can somehow gauge what I'm saying that
way, right? But, for the sake of efficiency and where I guess
we're going with online learning, and just the use of online

communications it makes sense that we're, that we're heading down this path.

To make sense of online learning, they were compelled to re-evaluate which aspects of learning were most important to them. They began to appreciate the benefits of online learning that appealed to their learning preferences and accessibility.

> S5: It, you know you could sign in anywhere. I could be here and working late and bang off a blog post. I could be on my lunch hour doing it. So, whereas you don't have to take that time to go physically to your class. And I thought I would miss it, but I didn't. But as I say I think our professors are getting so adept at this now that it, that the format worked. I don't know if it worked for everybody else of course, but it really worked for me. Like I just felt that you could be so self-driven, so if you wanted to read ahead by a week you could. Whereas when I went to my in-person class we would be told that week you should be reading this for next week.

Technology plays a large part in online accessibility and when it failed there was anxiety, panic and self-doubt. These students expressed a strong desire to follow the rules and they wondered if they were doing something wrong. The technical difficulties sometimes led students to question whether online education was really working for them.

> S3: And I think that has turned me off a little bit, to have technical difficulties. I really felt that if it were my first online class I would think, "What have I got myself into?"… I was in panic mode all day calling the helpdesk.

When looking back at some of their online courses students believed there were certain courses that were best taught online. When they thought about learning certain material in a face-to-face environment they weren't convinced it would have been

affective for them. When individuals retrospectively make sense of their experience it is affected by their memory of the event (Weick, 1995). This can create a hindsight bias which is influenced by the individual's perception of the outcome. If the outcome is viewed as positive, the event is reconstructed to emphasize positive perceptions.

> S2: Difficult to judge because the material really outweighs …
> well, maybe. But maybe not. In many ways I think in that class
> I needed to learn x, y, z. I learned it. I don't know that I would
> have wanted to discuss it anymore in a seminar situation. I
> certainly wouldn't have wanted to be in a lab. I don't think it's
> any reflection on the professor or the learning tool as much as
> it is the course material. I think that one's really…in hindsight
> I'm glad that I took it in that particular environment.

In online environments a great deal of emphasis is placed on written work for evaluation. Students were cognizant that their work was "frozen" in time and this made them very careful with their writing. Students found this changed the nature of their contributions and comments when compared to their face-to-face experiences. They believed it improved the quality of their work.

> S3: I would read and re-read and get someone else to read it
> and see if it made sense and if it was professional and if they
> had questions. Whereas if you're in a class and you're just
> talking, you're not going to be, you're not going to be that
> thoughtful about what you said. Not to say that there's not
> careful thought that goes into it but I think that you're maybe
> more spontaneous, less cautious. Definitely.

Weick (1995) notes "… the feeling of order, clarity, and rationality is an important goal of sensemaking, which means that once this *feeling* is achieved, further retrospective processing stops" (p.29). Once students became comfortable and accepted

online learning, their retrospection in the sensemaking process ended and they began

enacting their new student identities.

Enactive of Sensible Environments

> *...the activity of "making" that which is sensed (Weick, 1995, p.30).*

Weick's (1995) theory of enactment illustrates that individuals produce part of the

environment they face. "They act, and in doing so create the materials that become the

constraints and opportunities they face" (Weick, 1995, p.31). As students moved towards

acceptance, they began to enact their new identities as graduate students. This enactment

was an important factor in their journey of acceptance.

> S1: So I have to umm, make sure that I go to the course online,
> like you go mentally to the course online, you're not forced to
> go to campus. So you have a different kind of forcing level
> there. And then you get used to it, and you start to enjoy it
> because you can at least manage your time.

With the students' writing representing their identities as serious students and

professionals, they began to think critically and analytically about their work and that of

their classmates. They began to shape their online environment, spending time to

carefully craft their online responses.

> S5: But you know, you really have to find um ways of
> delivering that feedback so the person actually, so that a: you
> don't ruin your own credibility as someone who's giving

> feedback, and b: give something that's going to be helpful to them in the future.
>
> And you're looking at everything everybody else said and you don't want to repeat what someone said so, I, you'd always try and find something original to contribute and it was hard.

"People create and find what they expect to find" (Weick, 1995, p. 35). As the writing quality improved, the students' positive perception of the online environment also grew. They believed the quality of the responses raised the overall level of the class and the program.

> S3: The fact that it was public. I'm a very serious person so I tend to be serious in my writing anyway, but I think this took it up a notch, knowing that anyone could see this. I want a professional representation of myself and of the program.

The increased pressure to engage in the course material, and the time it took to write their responses, caused many students to describe their online courses as intense. They found themselves logging into the course on a daily basis. Although this engagement was intense it increased their satisfaction with the course.

> S2: I was more tapped into that course on a day-to-day basis than I would have for just showing up Thursday from 4:30 until 7:30 and then you scramble, do your reading all that stuff. Oh, no I absolutely was.
>
> I felt overwhelmed at times. And it was a spring course too that I was doing so …I think it was like eight weeks? Seven weeks? Of really hard learning. You know as you ease in and ease out of the, what's expected. Um, but it was very good.

This expectation of analytical writing and critical thinking became the enacted student identity. When students believed their classmates were not performing at this expected level, they began to ignore these classmates' comments.

> S2: I saw the younger students who just liked everything that everybody said or wrote and I immediately dismissed them. They became, they were discredited in my mind right from the beginning because they never offered any constructive criticism. So I stopped listening to them. It's kind of like the blogger that has nothing to say – I stopped listening to them, you know?

Although students played a large part in shaping their online environments through their actions, the expectations of the professors and the students themselves were also influenced by cues extracted from their environments.

Focused on and by Extracted Cues

> *It seems like people can make sense of anything…We need to pay close attention to ways people notice, extract cues, and embellish that which they extract (Weick, 1995, p.49).*

Weick (1995) describes extracted cues as "simple, familiar structures" which help individuals understand what may be happening in their environment (p.50). Context will affect which cues are extracted and how they are interpreted. The students in this study looked for familiar cues in their online environments when reconstructing and enacting their identities.

The course structure provided a number of important cues for the students. They considered themselves rule followers, and a well organized course provided direction and

made it much easier for them to navigate in an online environment thus reducing their anxiety.

> S5: So if the professor is extremely organized and clear then it's much clearer to the student. So it's much easier in terms of knowing what to do when. And even in the podcasts, because they've used podcasts, a lot of it is influenced by how good the professor is at both doing their own podcasts and outlining the course, and doing the course and communicating the organization of the course to the student.

Although the students described the mandatory activities as intense they believed they were necessary for engagement with the material. Many of the courses included a variety of student activities such as chats, blogs, and wikis to provide all students with a chance to engage with the material and participate in the discussions. Assignments with clear parameters provided better cues as to the quality of the writing expected in the online environment.

> S5: And, and I think that [the professors] were very clear that our response, that it was to be a critical, thoughtful, analytical response as opposed to, "Great post, I agree". You know, just doing something that's quick and easy.

Often these activities were a large part of the overall course evaluation scheme which became an important cue that affected their written work. Students believed quantity as well as quality was important to receive a good grade in the course. This feeling of having to produce quantity as well as quality contributed to the intensity of the course and the workload. They compared this to a face-to-face environment where they were evaluated on the quality of the comments in class rather than the quantity.

S1: No, you don't, you can sit there, and this is for example, what [a professor] told us once, you just make one bright comment in class and that's enough. That means you're following the discussion, you understood, write it down. But online, because it's just one sentence it seems as if you wouldn't contribute so much. It's just…right? But sometimes in class you have one comment and the professor says "ooh that's cool." He goes home with this comment of yours in his mind. If it kind of was contributing to the discussion in a positive way than that was your contribution than you have one puzzle part of the 'A' grade, right? You see what I'm, you understand what I mean?... You cannot just say one sentence in class, that's a little bit exaggerated. But, it's um, you don't have, it's I don't think you have to contribute so much. I've found myself forced to write more online.

To influence and shape their environment and the reactions of others, individuals extract cues "…from the self that feels most appropriate to deal with the situation" (Weick, 1995, p.24). Students missed the non-verbal social cues associated with face-to-face communication, and this affected their participation in synchronous courses. The silence of sitting in front of a computer when speaking was difficult for them and often inhibited their participation. Although they believed they learned as much in the online course they felt this affected their supplemental learning by not asking questions.

S2: I was just sitting in my office that I normally sit in staring at the screen with no acknowledgement from my peers that anybody understood anything that I said. So I'd often click off part way, and I found my comments being shorter and more fragmented. It was just a departure from how I normally contribute to the class and how I like to discuss. And I like to, I found I absolutely did not ask the amount of questions I would normally ask. I probably didn't get the supplemental learning that I normally get.

Students also looked for cues from their classmates to validate their online student

identities. The lack of social cues and non-verbal feedback can impede communication

and the development of relationships (Kiesler et al.,1984). These barriers to

communication can make it difficult for learners to develop trust and comfort with one

another. Students in this study were sensitive to their classmates' responses, or lack

thereof, to their work. They were feeling unsure about this form of communication and

spent a great deal of time preparing their posts. When they didn't get the response they

expected, they questioned their abilities.

> S3: I blogged one week and no one responded to my blog. You can hear the sadness in my voice [laughs]. I was like 'no one responded to my blog! Maybe it wasn't any good.' There was this self-doubt, and I'm a self-doubter anyway, so this self-doubt would creep in. Well maybe my blog wasn't any good because no one took the time. Or no one, maybe no one read it because you really only had to, you only had to, really if you were responding only to one you only had to read one. That's not how I worked, but if you identified with something you might respond to it, but no one responded to mine so I had this self-doubt.

Weick (1995) argues "extracted cues are crucial for their capacity to evoke

action" (p.54). To act individuals find a point of reference that is familiar to them, and

then begin to shape their experience. Despite these social drawbacks there were several

comments about the convenience of online learning outweighing their preference for

these face-to-face environments. Students described themselves as self-motivated,

independent learners and enjoyed the opportunity to control their learning. In an online

environment they were able to re-listen to podcasts, take time to reflect on more difficult

topics, and manage their time by adjusting their deadlines to accommodate a heavy

workload. Although these same benefits were available in face-to-face courses, students felt online learning encouraged these behaviours.

> S3: I think I still felt freer to move ahead because everything was there laid out from point A to point Z. Exactly what you needed to do, when you needed to do it. But you could go ahead and work at your own pace in that asynchronous environment. I wouldn't want to do that in a classroom setting because it was like I would get ahead of myself if you hadn't had the discussions yet. I wouldn't want to lose my thoughts. Whereas because it was asynchronous all of your thoughts were there written ever so carefully but you could work at your own pace. So if I have a blog post due on a Sunday but I read all the material I could have it done by Tuesday.

This students' reaction to the convenience of online learning is one way in which the students demonstrated the ongoing nature of sensemaking.

Ongoing

> *To understand sensemaking is to be sensitive to the ways in which people chop moments out of continuous flows and extract cues from those moments (Weick, 1995, p.43).*

Weick (1995) argues "...that people find themselves thrown into ongoing situations and have to make do if they want to make sense of what is happening" (p.43). Individuals only notice events that interrupt their "situations" or projects. Interruptions to projects create emotional responses which trigger the sensemaking process. To understand the emotional response individuals will try to make a connection between the current situation and a previous experience.

Students did not experience a strong emotional response to online learning until they were faced with the choice of enrolling in an online course to avoid delays in fulfilling their degree requirements. It is this stronger emotional response that forces individuals to "step outside the stream of experience and direct attention to [the interruption]" (Weick, 1995, p.25) to make sense of the new situation. Once students made the decision to take online courses they looked for signposts to validate their decision. As a result they began to make new sense of online learning and continued to make sense of this experience.

> S2: If you had asked me this morning which method of learning I preferred I would have said face-to-face but after talking about it with you this morning I realize that I like both equally.

This analysis has shed some light on how the computer-mediated nature of online learning has impacted how students' make sense of their education. It demonstrates a clear and observable sensemaking process and it's evident that these students believed their online learning and CMC with classmates and professors was meaningful. A further discussion of these findings will look at this process in more depth and consider the factors that influenced their sensemaking process.

Chapter 5: Discussion

The Journey of Resistance to Acceptance

It's apparent from the previous analysis, students' acceptance of online learning required them to conceive their identities and learning differently than they did prior to taking an online course. Their sensemaking allowed them to view their online experience as valid and meaningful which was critical for their journey of resistance to acceptance. This sensemaking process was grounded in identity construction, retrospection and plausibility with the social, enactive, extraction of cues and ongoing aspects of sensemaking presenting in supporting roles. Figure 1 provided an overview of the seven sensemaking properties in relation to the three themes present in this case study, resistance, identity and overall experience. A look at this process as it relates to the literature may offer some insight as to how this acceptance occurred and how it can be facilitated and supported by educators.

Start of the Journey

Most of the students initially wanted to avoid online learning when they enrolled in their degrees. Their resistance was not surprising and is consistent with the literature. Stories of avoidance are common as studies reveal many students are more comfortable learning in face-to-face environments and believe they cannot learn as effectively online (Berge & Muilenburg, 2005; Navarro & Shoemaker, 2000). Although there is research

about why students may avoid online learning, there is little about how students come to understand their resistance or move towards acceptance. The students' resistance in this study appeared to be rooted in their definitions of student identity and graduate learning. They retrospectively examined these definitions, and the cues they extracted from their environment, to support the plausibility of their perceptions.

Students chose to attend the Mount for its small, personalized class sizes, and looked forward to engaging in intellectual discussions with their professors and classmates. They believed the quality of their education was influenced by their ability to have these face-to-face, scholarly discussions, and described these activities as consistent with their perceptions of student identity and meaningful learning.

The students could only compare online education to their previous face-to-face experiences to make sense of this new form of learning, and in their opinion, online classes were at odds with their expectations. When considering the history of distance education and the debate surrounding the quality of online education (Larreamendy-Joerns & Leinhardt, 2006), it seems natural students would question its value. Academics themselves continue to argue the effectiveness of online learning and this debate appears to reinforce characteristics of the face-to-face classroom as meaningful learning.

It's unclear whether students would have ever enrolled in an online course if there had not been an interruption in the flow of their education. It wasn't until students were faced with the choice of enrolling in an online course that they began to make sense of online learning. This "shock" forced them to "step outside the stream of experience and direct attention to [the interruption]" (Weick, 1995, p.25) to make a decision about enrollment.

When individuals are making sense of changes in their environments they look for plausible explanations to understand what has happened to create their new circumstance. Once students made the choice to enroll in an online course, they began the sensemaking process. First, they believed they really had no other choice but to enroll in an online course, and then they began to rationalize their decision. Students expanded their definitions of learning and reconstructed their student identities to maintain a positive sense of self. To do this they looked for plausible cues from their environments. An important cue for this group of students was related to their profession. They believed as communication professionals they should be familiar with CMC technologies and online learning was a plausible way to achieve this objective. They began to look at online learning as a way to progress, and an opportunity to experience "the wave of the future" rather than an obstacle to avoid.

Once students made sense of their decision to enroll in an online course they were prepared to continue on their journey of making sense of online learning. This suggests that giving students space to reconstruct their identities and definitions of learning is important for them to overcome their resistance and begin accepting online learning as meaningful.

Signposts Along the Way

As students examined their acceptance of online learning, they reflected on their own identities as students and professionals, their relationships with their classmates, and the identities they attributed to their professors'. They described how these identities

changed and adapted to the online environment. Students relied on cues extracted from their environment to guide their behaviour and began to enact their new student identity which further supported the plausibility of online learning as valid. The social and ongoing nature of sensemaking was also evident in their acceptance of online learning.

As the literature highlights, disadvantages of online learning tend to be related to the social aspects of communication. The lack of social cues and non-verbal feedback can impede communication and the development of relationships (Kiesler et al.,1984). These barriers to communication can make it difficult for learners to develop trust and comfort with one another. When describing their online experiences the students in this study often referred to their ability to make connections with professors and classmates. Initially these connections were central to their identity as students and professionals.

As Weick (1995) notes, individuals live in the minds of others and try to anticipate the judgments that will be made. The students in this study were doubtful people would truly get to know them, and this created anxiety as they felt it was important for their professors and classmates to see them as serious, committed students. As the students progressed through their courses they believed they were able to demonstrate their capabilities through engagement with the material, knowing their written comments were a reflection of their identity and affected their reputations as professionals.

The writing took on great importance and students relied on cues from their professors and classmates to better understand what this writing should look like. It was evident that when assignments and expectations were clear, the students were more comfortable and confident and better able to enact their student identity. They actively

shaped the environment to fit their perceptions of graduate students and communications professionals, and spent hours preparing posts, thinking critically about their work thus raising the level of their engagement with the material and the quality of their work. When they received good grades or constructive feedback, their identity was reinforced, and as the quality of the writing improved, their positive perception of online learning grew.

Research suggests that a benefit of online learning includes the opportunity for students to have the time and space to reflect before responding to discussions (Tolmie & Boyle, 2000). It appears that having time to reflect was critical to the development of these students' new identity and enactment of this identity. Without time to "carefully craft" their responses, they would not have felt they had adequately portrayed their personalities or demonstrated their abilities in the online environment. This would have reduced their satisfaction with this new form of learning as it would not have fulfilled their identity needs.

Research also shows that a high level of interaction is necessary for a successful online learning experience (Huang, 2002). Literature suggests that CMC promotes interaction, engagement and dialogue allowing students to lead and initiate discussions and improve student collaboration (Tolmie & Boyle, 2000). This appeared to be true in this case study. Students were more satisfied with their experiences when they were engaged with the material and each other; however students were reluctant to interact with the material and classmates unless these activities were mandatory. While living in the mind of others, they worried about how they would be perceived if they began commenting on, or critiquing, their classmates' work.

This living in the mind of others and the deliberate effort to influence their reactions demonstrates the social nature of sensemaking. Weick (1995) notes that "sensemaking is never solitary because what a person does internally is contingent on others" (p.40). Students were feeling uncertain in this new environment and were concerned about maintaining their credible reputations using CMC. Therefore, in addition to needing time to prepare responses, it appears students also needed permission to interact with each other's work. Although the literature cautions against employing mandatory activities and discussions, this study suggests that these activities may be necessary to achieve a high level of engagement in the course material and with each other. It would appear that professors must explicitly make engagement and discussion plausible activities for the students, as without this engagement, students would have been far less satisfied with their online experience.

Although mandatory activities appear necessary, the cautions noted in the literature are valid concerns. With the inclusion of mandatory activities it is important for professors to monitor student responses and interactions in the online environment. As noted earlier, students also looked for cues from their classmates to reinforce their student identities and when they didn't get the response they expected they questioned their abilities and the online environment. If students are not receiving the cues they expect to validate their identity, learning in online environments may become less plausible.

As students moved towards acceptance of online learning they began to re-evaluate their definition of meaningful learning. Initially this definition was grounded in the relationships they developed with their classmates and professors. In the online environment, students felt they got to know their classmates and professors through

online discussions; however the strength of these relationships was weak when compared to their face-to-face experiences. As they began to reconstruct their identity they realized the strength of these relationships was not as necessary as they had believed for their quality of learning. Engagement and other structural factors took on greater importance and affected their overall experience.

The literature described a number of structural factors required for successful online courses and CMC communication. Courses needed to be organized yet flexible enough to meet individual needs, and communication was improved when group sizes were smaller, individuals had previous relationships, and there was a clear function for CMC which could not be fulfilled by any other communicative means (Huang, 2002; Tolmie and Boyle, 2000). When considering these factors, it was interesting to observe that they had a definite impact on the students in this research.

All of the students interviewed for this study knew each other from previous face-to-face classes or work-related connections. As a result, there was a tendency to form learning groups based on these prior relationships. They often contacted each other outside of the online class environment by telephone or e-mail, and their willingness to do this appeared to stem from these previous face-to-face interactions. This ability to connect outside of the online course environment seemed to compensate for the lack of social interaction within their courses and could be a contributing factor to the students' reconstruction of meaningful learning. The students no longer saw the lack of social interaction as an obstacle. This allowed them to focus on other factors as important for the plausibility of online learning. If the students had not been able to connect with each

other outside of the environment they may have made sense of their online experiences differently.

Without these previous relationships, students were reluctant to communicate with classmates they didn't know; however when online courses included added dimensions of interpersonal communication at the beginning of the course, students felt more inclined to "reach out" and connect. Learning and communicating are social activities; therefore students needed familiar communicative cues to make sense of the online environment and hearing their classmates' voices provided these cues. They believed they were better able to get to know their classmates which reduced their reluctance to interact. As Weick (1995) notes, individuals live in the minds of others and try to anticipate the judgments that will be made. Anticipating how others will respond is made easier with familiarity. This would suggest including elements of interpersonal communication could improve the social connections in an online environment thus improving engagement with the material and each other.

While students missed the social interaction which occurred in face-to-face environments, it did not seem to reduce their satisfaction with their online experiences. As Powell and Keen (2006) suggest, it's important to consider what distance students are actually hoping to achieve when taking online courses. The students began to value the accessibility of online learning which appeared to outweigh their preference for face-to-face environments. Students described themselves as self-motivated, independent learners and enjoyed the opportunity to control their learning. They believed the online environment better supported these aspects of their education. This reflects Weick's (1995) theory that individuals extract cues "from the self that feels most appropriate to

deal with the situation" (p.24), and that the cues are influenced by current context. For students to realize these benefits and make sense of their experience as meaningful, it appears they will need opportunities to control their learning and enact this learning in ways which meet their needs.

As seen in the literature review and analysis, technical difficulties can negatively impact students' experience. When technology didn't work it created a great deal of confusion for these students, and unfortunately, problems with technology often occurred at the beginning of the course. Students often noted that if it had been their first class they would have questioned "what they had gotten themselves into." Drennan et al. (2005) found that technology affected learners' satisfaction at the beginning of a course but not at the end. Hindsight bias can influence how individuals make sense of their experience, and how they make sense of this experience is affected by their perceptions of the outcome (Weick, 1995). If these students had not already perceived their online experiences as positive, their sensemaking would have been much different. It appears to be important to ensure that students have a smooth introduction to online learning so they can extract positive cues from their experience to shape their sensemaking process.

As the students moved towards acceptance of online learning a sensemaking process was observed. The seven properties of sensemaking were very closely linked. As Weick (1995) suggested, they did not appear in a linear sequence and some were more evident than others. Understanding this process and its implications may assist educators and communicators support students in their journey to make sense of online learning more effectively, and provides answers to the research questions set out at the beginning this study.

Chapter 6: Conclusion

The Journey Comes to an End

At the beginning of my journey as a graduate student writing this thesis I set out to explore questions like: Do students make sense of online courses as meaningful? Do students make sense of their CMC with professors and classmates as meaningful? What factors influence student sensemaking of online education?

As the students in this case study journeyed from resistance of online education to acceptance a process of sensemaking was evident. At the end of their journey to make sense of online learning, students believed that online learning was as effective and meaningful as traditional face-to-face learning. To reach this conclusion they each identified a process of sensemaking that included a reconstruction of their identity as students and their understanding of online learning. When describing their initial resistance, students highlighted properties of identity construction, retrospection, plausibility and the extraction of cues from their environments. Identity construction continued as they began to accept online learning as plausible, and was influenced by the retrospective, social, enacted, extracted cues and ongoing properties of sensemaking.

It was also clear that students saw their CMC with professors and classmates as meaningful. Although the relationships developed in online learning environments were not always as strong as they were in face-to-face environments, the communication was no less meaningful. It was just different. The students were very engaged with the course material and discussions, and believed this communication was of a higher, more critical

quality than was found in the classroom. This high level of engagement was a crucial factor influencing their acceptance of online learning.

And finally, in addition to a high level of engagement, students needed clear expectations from professors to enact their new student identities. These expectations provided clear cues which made their CMC and online learning plausible.

The goal of this qualitative study was to explore students' experience with online learning. The sensemaking framework allowed for an in-depth investigation of complex phenomenon which could not be achieved through quantitative research. Answering these questions demonstrated that student sensemaking around online learning is a process which requires attention to identity construction and enactment, plausible understandings, retrospection, a reflection on extracted cues in an ongoing and social context. This case study methodology expanded our understanding of this sensemaking process and as educators and communicators may allow us to support students in their journey to make sense of online learning more effectively. Understanding how younger, less experienced students, and students in other disciplines, make sense of their online experiences could further build on this knowledge.

When looking at this process of sensemaking it appears that structural factors could be integrated into the development of online courses which may positively influence students' sensemaking process and move them towards acceptance of online learning. Firstly, students need the time and space to construct their identity which is influenced by the CMC. Clear parameters about participation and mandatory activities should be provided to support students as they navigate this new form of communication and new relationships with classmates and professors. Secondly, educators should be

sensitive to the large amount of time students spend crafting their responses in order to fulfill their identity needs. Thirdly, the more students feel connected with one another the more comfortable they will be anticipating others' reactions. Including some form of interpersonal communication at the beginning of the course may heighten this feeling of familiarity. And finally, educators must ensure that technology does not become a barrier for students particularly early in the course. When students felt lost or panicked they questioned the plausibility of online learning as meaningful which could have affected their overall sensemaking experience. Attention to these few structural factors could better support students as they make sense of online learning.

Although this chapter is entitled "The Journey Comes to an End", it is not entirely accurate. Sensemaking is an ongoing process which never really ends; however as previously quoted, "… the feeling of order, clarity, and rationality is an important goal of sensemaking, which means that once this *feeling* is achieved, further retrospective processing stops" (Weick, 1995, p.24). The goal of this case study was to answer several questions around how students made sense of their online experiences. To do this I had to make sense of the rich interview material collected and enact understanding through analyzing and writing about these experiences. I believe I have found answers to the questions I set out at the beginning of this study so it is time to end the retrospective processing to move forward in my own journey as a graduate student. Although I have defined an ending for this process, I know that my understanding of what I have learned will continue to grow and develop in the ongoing way which characterizes sensemaking.

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Appendix I: Certificate of Ethics Clearance

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UNIVERSITY RESEARCH ETHICS BOARD

Certificate of Research Ethics Clearance

Title of project: *Making Sense of Computer-Mediated Communication in Online Learning*
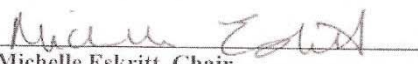
Researcher(s):   Sonya Horsburgh
Supervisor (if applicable):   Amy Thurlow
Co-Investigators: n/a

File #: 2010-021

The University Research Ethics Board (UREB) has reviewed the above named proposal and confirms that it respects the *Tri-Council Policy Statement* as outlined in the *MSVU Policies and Procedures: Ethics Review of Research Involving Humans* regarding the ethics of research involving human participants.

This certificate of ethics clearance is valid one year from the date of issue. Renewals are available for up to two years in addition to the initial year and are contingent upon an annual submission to the UREB of a written request for renewal accompanied by a satisfactory annual ethics report thirty days prior to the expiry date as listed below. A final report is required within 30 days of expiry. Researchers are reminded that any changes to approved protocol must be reviewed and approved by the UREB prior to their implementation.

Dr. Michelle Eskritt, Chair
University Research Ethics Board (UREB)

August 23, 2010
Effective Date

[Expires: August 22, 2011]

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Appendix II: Interview Questions

1. What has been your experience with online learning?
2. Have your feelings towards online learning changed? How?
3. Did you feel you had an opportunity for class discussion? How was it different online?
4. Will you take another online course? Why or why not?
5. Did taking an online course save you time?
6. Did you feel pressured knowing others could look at your written comments? Did this feel different when compared to contributing to an in-person class?