STUDENT SATISFACTION AND FRUSTRATION WITH ONLINE EDUCATION:
A CMC THEORETICAL ANALYSIS

A Thesis
Presented to the Faculty in Communication and Leadership Studies
School of Professional Studies
Gonzaga University

Under the Mentorship and Supervision of John Caputo, Ph.D.
Communication and Leadership Studies

In Partial Fulfillment
Of the Requirements for the Degree
Master of Arts in Communication and Leadership Studies

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April 2012
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ABSTRACT

Although online education is praised for convenience, a stigma still remains about its quality. Constant comparisons to traditional methods coupled with a popular belief that online education is "easier" continue to denigrate online learning to an inferior alternative. Online education and the technology behind it are innovative but their relative immaturity has limited most of the research to an institutional perspective. This exploratory study examines the student perspective of online education in terms of personal satisfaction and frustration by interviewing eight students with online education experience and analyzing their perceptions using existing computer mediated communication theories. This study provides insight into the unique communication aspects of online education and shows how the rate of information exchange in online environments is expanding beyond originally understood capacities. Computer mediated communication theory should advance to reflect current channel and rate capacity if we are to fully understand the potential of online education.
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Chapter 1: Introduction

Importance of the Study

While many educational institutions are cutting budgets, online education offers colleges and universities the ability to supplement traditional on-campus opportunities while extending the reach of the institution to potential students regardless of geographic distance. The interaction between teachers and students in the online environment is unique and is a relatively new field of research with many areas of inquiry for the communication researcher. Few studies come from the students’ perspective but many explore the metrics between classroom and online academics. This study of student perceptions addresses new propositions for research for communication within online education by focusing on student satisfaction and frustration.

Because online learning has grown in popularity at such a fast pace, it is important to study student perspectives in order to better understand the online learning environment and develop best communication practices for teaching and course design (Lim et al., 2008, p. 118). Much of the existing research often compares face-to-face (FtF) classroom teaching to distance learning from the institutional or teaching perspective. All perspectives should be considered for institutional development so online learning can thrive. The versatility and economic vitality of online education make it attractive to schools, and convenient for students, teachers, and parents.

Statement of the Problem

This exploratory study examines students’ satisfaction and frustration in online learning environments using Walther’s (1992) Social Information Processing theory (SIPT) and Computer Mediated Communication (CMC) theories. As online education continues to flourish as an educational commodity, special care must be taken to ensure that the quality of education
remains high and that the medium does not compromise the student experience. The SIPT and CMC provide rich research viewpoints for the online education medium and can help illuminate where more detailed research is available. The SIPT recognizes and builds on earlier established cues-filtered out theoretical approaches to CMC (social presence theory and media richness theory) by introducing the concept of how time can influence communication performance (Walther, 1995). The SIPT and its component theories are used to examine the dynamic between online student levels of satisfaction and frustration. Data was collected for this qualitative analysis using SIPT and CMC frameworks by digitally recorded interviews with students.

Online education and CMC theories are both relatively new—encompassing a period of the last twenty years. Rapidly developing technological capabilities have allowed educational institutions to move quickly toward a new educational paradigm but there are obviously some flaws associated with the change in communication channels to computer mediated educational platforms. These problems may be able to be reconciled over time with the development of better practices but more studies from the student perspective will be needed in order to identify the areas for improvement.

Definitions of Terms Used

1) CMC – Computer Mediated Communication. Often used as a modifier to describe a group of communication theories discussed in this study collectively known as CMC theories.

2) FtF – Face to face. Often used in comparative terms to CMC in order to point out interactional differences between traditional classroom environments and online education.

2) SIP or SIPT – Social Information Processing Theory
3) OLE – Online Learning Environment. A description of all the technological methods that may be used in online course design.

4. LMS – Learning Management System. A specific online software tool to mediate class activities and assignments.

Organization of Remaining Chapters

This thesis is presented in five chapters. Chapter two provides a philosophical perspective for this study and examines the existing literature on CMC and SIPT as well as the prevalent studies of online education to provide a historical understanding of both areas. Chapter three describes the methodology of the study and introduces the logic behind the data collection method (simple interviews) and the target sample. Chapter four provides an analysis of the data by pointing out the prominent areas of interest reported in the interviews and provides a discussion of those concepts in theoretical terms. The study concludes with Chapter five, which provides a synopsis of this research in terms of limitations, areas for further research, and a philosophical and theoretical review of this study and how it fits into the existing research.
Chapter 2: Review of the Literature

As established, both CMC theory and online education are relatively new disciplines for study. The rapid growth of online education has created somewhat of a race among colleges and universities to compete for this new population of online students. In the rush to create working models that serve the universities, the student experience has not been fully considered. This analysis uses existing research regarding CMC theory as well as studies in online education to form further inquiry. A review of existing CMC theory and recent research in distance education is required to create a basis of understanding to provide insight that might improve communication in online environments. A rationale summarizing the concepts of the theories and the literature will follow the examination of the material.

Philosophical/Ethical Assumptions and Theoretical Basis

While an institutional perspective may have been needed to establish online education, universities and colleges will have to eventually learn to better understand the needs of the students in order to create a brand that encourages and sustains enrollment. Advancement of higher education has been initially driven by institutions but a balanced approach that accounts for the student experience in the online arena is needed. Aristotle warned about the perils of an unbalanced approach to any endeavor and suggested a “golden mean” to describe how an ethical and virtuous path would produce the greater advantage for all. Online education is open to a much broader audience and is therefore more of a commodity than traditional in-classroom education. This feature alone suggests that the student experience may eventually have the power to sway enrollment to organizations that value and focus on the student experience.
Rivera (2005) states, “Education in our times has been plagued by often stultifying battles between extremes, each position containing important insights that are critical for promoting excellence in human development but are also distortions born of extremes” (p. 79). Although the creation of the online education models we currently have were created with a necessary focus on the institution, the online learning environment needed to operate courses, and the design of those courses to suit the medium, a shift toward the student perception will be needed to sustain the viability of online education. In the case of online education, market factors may eventually drive the norm to a version of Aristotle’s socially justifiable center. However, recognition of this imbalance may give educators and institutions an advantage in creating a better student experience.

This study uses CMC theory and the later defined Social Information Processing theory to help better understand the communication between students and teachers from the students’ perspective. Being a computer mediated environment, online education and the student perception of it can be readily studied using the CMC and SIPT perspective. An exploration of the concepts within these theories through the lenses of students can serve to refocus the discussion to a more balanced approach. An in-depth discussion of these theories appears in the following sections.

Social Information Processing Theory

Joseph B. Walther (1992) introduced the SIPT as an interpersonal communication perspective within CMC studies. His theory was developed by examining the existing interactive media theories that argued that social cues were filtered out of the communication experience in CMC—namely social presence theory and media richness theory (explained below). Walther
(1992) contends that the existing theories did not account for chronological factors that allowed for the development of personal friendships and other personal and socially rich interactions in CMC that were already taking place in real environments (p. 60). This contradiction with the existing CMC theories, Walther argues, was likely due to existing research being conducted in very controlled environments that did not allow for measurements of the rate of communication over time (1992, p. 62).

Social presence theory, as argued by Short, Williams and Christie (1976), posits that messages within CMC lack the personal expressions only found in FtF and therefore CMC is a relegated to a cold, impersonal media. This was supported and expanded upon by Sproull and Kiesler (1986) when they argued that the missing cues such as nonverbal behaviors fail to convey the status of the participants and increased the tendency for excited and hostile communication (Walther, 1992, p. 56). Another perspective in the cues filtered out group of theories, media richness theory (Daft & Lengel, 1984), argues that the limited channel capacities of CMC (compared to FtF) creates a lean medium that restricts the flow of social cues as well.

Walther followed up his original work in 1992 with a series of experiments (1993, 1995) that measured impression development in CMC over time and compared those findings to FtF exchanges. He found that, “In CMC, however, where immediacy/affection cues are less abundant, participants will require more exchanges to obtain similarly developed levels; their development will occur more gradually” (1995, p. 191).

Walther’s work, as well as the cues filtered out theories it is built on, are integral to this study and the interpretation of communication problems in online education. It is interesting to note that the development of CMC theory and online education are both so new and dynamic.
The concepts within CMC theories are inherent to online education and the time element in Walther’s SIPT is very relevant to the asynchronous nature of online education.

The Evolution of Distance Education Research

Distance education is a relatively new but broad research topic. A brief historical perspective is presented below followed by a categorization of the themes as they apply to this study. This section concludes with a synopsis of the literature as it applies to this research proposal.

As online learning has continued to grow, the available research on the topic has grown and evolved as well. The Education Resources Information Center (ERIC) database included distance education to its controlled vocabulary in the early 1980’s and the term uses an extensive thesaurus of words and phrases to supplement search terms. According to Davies, Howell and Petrie (2010), ERIC had 1260 submissions associated with the vocabulary term distance education in 1990 but had nearly 12,000 in 2010 (p. 45). Clearly, the proliferation of distance education has spawned a growth in interest of the medium as a topic of inquiry of scholars and researchers.

Researchers who praise online education cite many of the conveniences of the medium for students who are unable to attend traditional classes (Wyatt, 2005, p. 460), and for those who need more control of the time in which they apply their studies (Chang & Smith, 2008, p. 407). Many of the studies listing the benefits of online education restate the same conveniences using different interchangeable terms such as flexible, convenient, adaptable, and accommodating. On the other hand, critics of online education cite the physical distance as a main cause for missing information that cannot be gleaned by the teacher or overcome by the technology (Wickersham
& McGee, 2008, p. 73). Nevertheless, declining student enrollments and restrictive budgets are forcing administrators at all levels of higher education to review ways in which courses are offered and the increase in non-traditional, part-time student populations fits well with the benefits of distance learning (Borstorff & Lowe, 2007, p.13).

Much of the early research about online learning also compares distance learning with traditional FtF teaching environments (Davies, Howell & Petrie, 2010, p. 42) in a manner that makes the differences more significant and most work done on distance education at the graduate level consists of descriptive analyses of self-report studies (Davies, Howell & Petrie, p. 52). These types of studies typically have contradictory findings, use poor techniques on limited sampling sizes, and rarely focus on original quantitative measurements (Lim et al, 2008, p. 114).

Many of the existing studies are limited to a sample of students in one class or series of similar classes at one university. This is understandable given the relatively newness of online distance education and the dichotomous nature of the perceptions between distance education and traditional classrooms. Although quantitative analysis in a time-sequenced situation like coursework is difficult and costly, the lack of studies from the student perspective may be a hindrance to the development of best practices for online teaching.

The following three sections discuss existing research of online education. These topics represent important themes of this study as they relate to issues of satisfaction and frustration.

Online Learning Environments

Much research focuses on the software medium in which the online learning takes place and refers to the platform as the OLE (online learning environment) (Palmer & Holt, 2010, p. 135) or the LMS (learning management system) (Cakmak, Karatas & Ocak, 2009, p. 353) to
describe the interactive environment. These studies include the software in the debate about the effectiveness of online learning but do so in a manner that shows the capacities of the software and environment to provide a more complete learning experience. Not surprisingly, the software discussed in the research is often viewed as a tool for use within the medium rather than an answer to a better online experience from a student perspective.

One very recent study by Stuart Palmer and Dale Holt (2010) emphasized that the OLE is becoming more concerned with the elements of learning provided within the LMS that are less associated with just online learning but with good teaching techniques which help students become better learners (p. 148). This study clearly shows an evolution in research that shows a trend toward the theoretical aspects of online learning and less emphasis on the technological aspects of distance education. This is congruent with other analyses of research trends that show fewer studies dealing with the quality of software and hardware configurations for distance education and the capability for institutions to put forth a high quality technological medium for their students (Davies, Howell & Petrie, 2010, p. 53). The Palmer and Holt study examines the evolution of the OLE beyond a software development perspective of applied LMS technology and expands the online education toolbox to include a suite of online technologies including various video, chat, and other interactive components. The Palmer and Holt study concludes with a suggestion that students should be equipped to work effectively in an online learning environment but that the course design, including regular assessment and feedback, should be in place to ensure students understand where they are in terms of their performance (p. 110). This shows that the evolution of online education, as well as the research and understanding of it, is occurring rapidly and is resisting any rigid definitions that might limit its capabilities. This is
important to this study from a theoretical CMC standpoint as the OLE has evolved into a richer medium than was originally anticipated.

Instructional Design

The structure of distance learning varies by institution and course. Much research exists showing that well designed courses that deliberately select materials for a wide variety of student perception and experience can make up for the lack of FtF interaction between instructors and students (Lee & Rha, 2009, p. 372). Interactive technologies can help to bridge the proximity gap, but there is much active debate regarding how course design and high pedagogical structure compare with highly interactive course environments (Lee & Rha, p. 373). These arguments, however, are not limited to distance learning alone. As constructivist theories argue, active learning fosters the assimilation of knowledge from existing frameworks of individual experiences. Much of the research on distance learning and learner competency in the online environment support highly structured courses and strong OLE in a manner that suggests that these elements can overcome the lack of instructor presence. Course design and development have to do with the structure of the medium while, “interaction is an issue rather about implementation and management” (Lee & Rha, p. 374).

The discussion about instructional design in online learning simplifies the medium rather than acknowledges its complexities and potential. While traditional FtF methods allow for some flexibility, the distance education is accentuated by a fluid, non-linear nature that allows students to experience many multimedia inputs and a wealth of instantaneous resources (Borstoff & Lowe, 2007, p. 16). Distance education studies that stress the importance of clear assignments, appropriate materials distributed in a timely manner and unambiguous examples, evaluation, and
assessment procedures (Wickersham & McGee, 2008, p. 75) are really stressing the importance of those factors in educational settings in general.

It may be that some of the disadvantages of online learning in the context of course or instructional design are not all that new to the learning environment and that the comfort level acknowledged by supporters of traditional classroom settings is a reflexive measure. A study by Palmer & Holt surveying 1862 students from an assortment of Asian universities suggests that students who perceive disadvantages to online learning do so through a lens of familiarity with in-class environments. Their bias may lie in the comfort that they associate with traditional mediums and a lack of experience with computers and technology (2008, p. 101). Lack of experience with CMC is a student characteristic essential to instructional design that is not altogether unique to online education; however, its importance to the environmental setting and student satisfaction or frustration using computers for the primary channel of interaction is an obvious concern.

Student Experience and Motivation

It is easy to understand that the first wave of research regarding online education comes from an institutional or academic perspective given the relative newness of the platform. Traditional education research, however, is more balanced in terms of understanding the learning process from the student perspective.

Existing research on the student perspective of distance education addresses the life experience and relative age differences associated with online education, student satisfaction, and learner outcomes. Younger learners are more extrinsically goal oriented, which can undermine the student’s latent interest in the area of study (Knowles & Kirkman, 2007, p. 71)
while older students show a greater tendency to engage deeply in their studies, use better time management skills, and have been shown to perform better in online learning platforms (DiBiase & Kidwai, 2010, p. 302). Although raw data can show an age difference associated with performance, these studies can also indicate that personal motivation and experience with distance education (regardless of age) can affect performance. It is interesting to note that younger students in Dibiase and Kidwai’s study did not do as well when society generally assumes that they are more comfortable with technology (p. 303), but characterizations of this sort fail to address the time management issue that comes along with the flexible nature of distance education, the motivation of learners, and the individual nature of the online experience.

Student motivation seems to be a strong element in successful online education. To succeed, students must take the initiative to regularly engage the material and do the assignments or scheduled interactions (Knowles & Kirkman, 2007, p. 78). This type of intrinsic motivation must be present for successful student participation in online environments where passive interaction is not only discouraged but will create gaps in learning, feedback opportunities, and assessment. The difference in the two motivational mindsets is described by Knowles and Kirkman as a deep (intrinsic) as opposed to surface (extrinsic) approaches to learning and, “intrinsic motivation is crucial for the completion of online courses” (p. 72). This learning characteristic is most often aligned with personal maturity and is usually attributed to age differences in distance education studies where the age of the participants are recorded.

Synthesis and Importance of Existing Research

Many of the studies reviewed cite the limitations of the research as being bound to a single class or a simple comparison of two classes using online versus FtF methods, with a
common theme reflected in one comparative report stating, “…students self-selected a section of this course, and, therefore, may be predisposed toward more favorable attitudes toward their option” (Lim et al., p. 118). Regardless of the limitations, this initial research is important and covers three important dimensions that build a foundation for understanding online education research.

The first wave of research focuses on the instrumental aspects of online education and deals with the software and course design while defining distance education as a unique medium. The second group of studies refers to the students’ characteristics such as maturity and personal motivation as a determinant of success in the online learning environment. The third area of focus—which is more recent and less developed—has to do with the interactions between the student and the instructor in the online environment. This third aspect of research is more concerned with instructor/student feedback and social presence. Interestingly, these concerns are not unique to online learning but haven’t been addressed fully within the realm of distance education from a theoretical CMC perspective.

The Research Questions

**RQ1:** What are the aspects of student satisfaction/frustration with online learning that can be identified using existing CMC theoretical concepts?

**RQ2:** What are the relationships between student characteristics and CMC experience to satisfaction/frustration with online learning?
Chapter 3: Scope and Methodology

Scope

This study is intended to identify areas for future research regarding student satisfaction and frustration with online learning within the framework of grounded communication theory in CMC. It is interesting to note that in historical terms, online education and CMC theories are both relatively new—encompassing a period of the last twenty years. Rapidly developing technological capabilities have allowed educational institutions to move quickly toward a new educational paradigm but there are obviously some flaws associated with the change in communication channels to computer mediated educational platforms. These problems may be able to be reconciled over time with the development of better practices but more studies from the student perspective will be needed in order to identify the areas for improvement. This study aims to find new propositions for empirical research for communication within online education.

Methodology

In order to gain insight into the experiences that students find satisfying and/or frustrating about online education, this study employed extensive recorded telephone interviews with individual students to elicit as much information as possible about both their frustrating and satisfying experiences while taking classes online. A copy of the interview questions appear at the end of this document labeled as Appendix A.

The interview instrument was designed to first elicit basic student information to identify personal life experience characteristics and issues of personal responsibility. After a basic rapport was established, inquiries about general and specific instances of satisfaction and frustration were conducted. The order of the questions was intentionally designed to promote
more open discussion as the interviews progressed. Open ended questions are designed to promote descriptive answers so respondents can respond any way they wish (Neuman, 2006, p. 286). During the interviews, more information was elicited from the subjects as themes for inquiry were explored and respondents were encouraged to provide any additional information about their online educational experiences if they wished to do so.

A qualitative examination of the interview data will follow with noted reoccurring themes while the characteristics of the students will be recorded for referencing during the analysis. Although the sample is small, the characteristics will be compared to satisfaction tendencies and frustrating experiences to see if any patterns emerge. The interview data will also be analyzed using the SIPT framework and CMC concepts to propose future research hypotheses. Also, foundational concepts noted within the SIPT and CMC theories will be used to steer the interviews to elicit relative information for theoretical analysis. This is discussed in more detail in the Validation section later in this document.

As noted earlier, the time element of Walther’s SIPT is the unique concept that builds on and contradicts the cues filtered out theories that preceded it. This is an important element that will be explored in the analysis of the data because online education has an amplified asynchronous nature compared to traditional classroom interactions. It is important to note that traditional classroom experiences do not use FtF exclusively and some instant communication functions are used in the online CMC learning environments as well. In other words, traditional classroom experiences are not all synchronous learning environments and online education is not completely typified by asynchronous communication. How these two models lie on a time-interaction continuum and how student experiences can be interpreted using the time element of SIPT will be explored in the analysis of the interview data. While Walther’s description of time
as a mediator to the impersonal nature of CMC, other implications and considerations about chronological factors are be explored in the analysis.

Sampling

Purposive sampling of online students was used because of the specific nature of the study. This technique is helpful to select members of specialized groups (Neuman, 2006). The group of interview subjects consisted of eight students who had at least two online classes over the course of the last two years. Subjects ranged in age from 21 to 53 years old. The intent of the sampling size and choices for the interviews was to solicit responses from a various group of ages and level of post-secondary education (Community College, Baccalaureate, and Graduate) to determine if any combination would provide interesting concepts for interpretation through the SIPT and/or CMC theoretical perspectives. A simple pre-interview screening was conducted before each in-depth recorded interview to ensure that the overall sample was representative of a broad age and was from various institutions and disciplines of study. This intentional approach was taken to help identify how the elements of various instructional design and OLEs, as well as student life experience and experience with CMC, might generate communication situations for further study. Whether the students graduated or are continuing with online studies was also identified as an element of satisfaction with online learning.

The intentional sampling of students from various colleges and universities is important to this study as it relates to the inquiry about how the OLEs influence communication between students and teachers. Many early distance education studies focus on the technology used in the online environment but the frequency of that focus has declined as these computer mediated communication tools have grown in availability and capacity (Davies, Howell & Petrie, p. 53).
More recent research on online learning shows it as a much richer atmosphere with less importance placed on the specific software medium. This may be due to the development of solid learning management systems and the expansion of high speed internet services.

Validation

Due to the qualitative nature of this study and the multiple theoretical perspectives of the analytical framework, there is no assumption that the findings of this study could be generalized. Rather, the analysis of emergent and theoretical relative data will be analyzed so specific areas of the communication process in online education can be identified for possible further detailed empirical research. Although emergent themes are being sought, some concepts of SIPT and CMC theories will provide multiple focus areas for steering the interviews and theory triangulation will be used to analyze the data in an inductive manner. As Eriksson & Kovalainen (2008) point out, “Theory triangulation is a process of using multiple perspectives to refine and clarify the findings of your research” (p. 292). Student impressions regarding media richness and channel capabilities in modern OLEs were elicited from interview subjects so data regarding these concepts can be investigated through the related CMC theories they represent.

Ethical Considerations

The interview subjects’ perceptions of satisfaction and frustration are simply their individual reactions to experiences and observations during their online courses. Knowing this, an announcement of the exploratory nature of this study and a statement of confidentiality preceded all the interviews conducted for this study. Subject anonymity allows for greater honesty, candor, and sincerity in the interview responses while protecting student identities.
Chapter 4: The Study

Introduction

Digitally recorded telephone interviews were conducted with eight respondents who had taken at least two online courses within the last two years. This requirement was established as part of the methodology in order to ensure that the subjects had enough experience with online education to provide solid understanding of the medium while providing enough variation of experiences for meaningful analysis. The researcher took notes during the interviews to provide cues for further review of key elements of the recordings after the interview. The eight interviewees ranged in age from 21 to 53 and reported various life experiences and responsibilities. Only one respondent was completely dependent on parental financial support with all having life responsibilities and experiences that would suggest a high level of personal motivation to succeed in their educational endeavors. Purposive sampling ensured that the respondents represented broad student populations from community college, baccalaureate, and graduate programs in various public and private school settings.

Data Analysis

For reference, a copy of the guided interview questions appears as Appendix A to this document. After collecting the data and reviewing the notes of the interviews, the recorded interviews were examined again for the most prominent and re-occurring concepts of satisfaction and frustration as reported by the interviewees. Individual descriptions that were similar but might not match the terminology of the concepts described in the literature review were noted. For instance, one respondent repeated how well the classes she took were structured but did not use the terms instructional design while another noted that there was a lack of a “central portal”
where documents and discussions could take place – which is indicative of the online learning environment (OLE). Because the main focus of the study was to elicit elaborate responses regarding what the students found satisfying or frustrating and interpret those experiences using CMC and SIPT theory, these differences in terminology were adjusted for this analysis to align the student’s colloquial language to that of the study vocabulary.

Results

Many of the respondents’ reports of satisfaction and frustration were tied to the asynchronous nature of online classes with satisfying experiences described in terms of flexibility and frustration being described as a personal disconnect or some variant of that theme. Other descriptions were related the superiority or inferiority of instructional design and online learning environment(s). Those concepts were commonly reported in the answers to the questions where respondents were asked to describe their overall levels of satisfaction and frustration with online education. Those overall themes are reported in the following paragraphs followed by some specific instances of satisfaction and frustration. Both overall reports of satisfaction and frustration as well as specific instances will be explored using CMC and SIPT theory in the Discussion portion of this chapter that follows the descriptions of student satisfaction and frustration. The descriptions that follow are not exhaustive of the student experiences but are reported to show highlights of the interviews and emerging themes for theoretical interpretation.

One interesting emergent in most of the interviews was a tendency for the interviewees to describe online education in comparative terms to FtF classroom experiences even though no such comparison was solicited. At no time did the researcher use comparative descriptions or
language to encourage comparisons. Interview questions were intentionally restricted to elicit information about the students’ experiences in online education without reference to traditional classroom environments but a natural tendency to define those experiences in relation to traditional methods was prevalent.

Satisfaction

Most respondents in this study reported high overall satisfaction levels with online education with the already noted flexibility of the medium reported by all interviewees. Common responses included comments about being able to contemplate concepts or assignment material to formulate more in-depth answers and create more thorough projects. Many respondents provided detail about how online programs allowed them to attend schools or programs where they could not physically be present and the removal of the geographic barrier to the respondents’ desired education was a factor in attending an online class or program. Of the eight interviewees, six had completed degree programs.

Respondent’s reports of specific instances of satisfaction were more varied even if their overall satisfaction was similar. For instance, one respondent with a high overall satisfaction level said she felt very connected to the others in the online classroom community while another with the same overall satisfaction level reported feeling that their interaction with the instructor was more individualized and personal. Another respondent said she was very reluctant to even attempt an online class but she grew more confident as she progressed and her satisfaction level grew as she became more comfortable over time. Although the overall satisfaction levels seem tied to the quality of the education in terms of instructional design and OLE, individual satisfaction is linked to more personal priorities for each student. The ability to apply
individually constructed time management was often reported as a valuable component but two respondents also reported time management as a frustrating element.

Frustration

Overall frustration with online education was reported with less emphasis by the respondents. Interviewees with specific instances where strong frustrating experiences occurred also had some overall frustration levels but none of the respondents in this study had high levels of overall frustration with the medium. Although many of the students reported high overall satisfaction levels, each respondent had some frustrating experiences to report for this study.

Reports of individual frustrating experiences that were described most emphatically regarded coordinated group work and instructor feedback. One respondent who reported a “quirky” interface (OLE) also reported that it was hard to “sync up” with other students to meet a deadline on a project that required other students input. She intimated that although there was a high degree of flexibility with taking online classes there was also missing social interaction.

One student described strong frustration with not being able to contact an instructor and a lack of feedback that she felt held her back from moving forward with other coursework. Similar specific accounts were reported in varying degrees but few respondents reported strong frustrating experiences. Four respondents reported frustration with discussion boards but for different reasons. One felt that the discussions quickly went off topic without instructor involvement, another described the interaction between students in discussion forums as “fake and forced”, and yet another thought the requirements to interact with others were unfair because he thought that online education should be an individual experience. One student reported being “flamed” in an online discussion forum (a form of verbal abuse unique to CMC) but otherwise
reported very high overall satisfaction with online education. She described the episode as isolated and other student was reprimanded, which gave her some closure over the incident.

Although the design of the interview instrument detailed the difference between satisfying and frustrating experiences and overall levels, some topics overlapped as interviewees described their perceptions as they naturally associated satisfaction and frustration as being interconnected concepts.

Student Characteristics and Experience with CMC

As part of the background information on each student interviewed for this study, a brief series of questions were asked so the researcher could examine satisfying or frustrating experiences through those personal characteristics. A very limited number of these are noted for the main purpose of this study. These characteristics were chosen because of the prevalence of these traits in existing research on online education. All the interview subjects reported very high levels of comfort and experience with CMC and any frustration level reported with any new techniques or software was quickly overcome by the respondents.

Discussion

Theoretical Relevance and CMC Evolution

In order to frame the interpretation of the reports of student satisfaction and frustration with online education using CMC and SIPT theory, a historical perspective of both areas should be reviewed. Although the recent proliferation of online education was only made possible by the vast expansion of computer technology and CMC capabilities of the last decade, these advances postdate the CMC theoretical perspectives by almost twice that timeframe.
The data collected for this study is relevant to a time where both computer technology and its immersion into our culture have progressed far beyond the interpretations afforded by mainstream logic of the mid seventies when Short, Williams and Christie (1976) described the medium in cold, impersonal terms. Even by the mid eighties, when Daft and Lengle (1984) argued that the channel capabilities of CMC were too limited to carry rich language cues, satellites were being launched and cable infrastructure was being installed that would provide the necessary computer bandwidth to deliver the new forms of computer language that would eclipse the models from which those theories were developed. Although it may sound discourteous to their research, Sproull and Kiesler (1986) may have done groundbreaking work regarding social cues but they were never exposed to Skype or experienced the possibilities of today’s Smartphone.

The originally established CMC theories were relevant to their known qualities of the time but Walther’s SIPT was crucial in changing the understanding of CMC capabilities. The following interpretation of the student’s experiences in online education will refer to the concepts of the original CMC theories but will also build on the important concept of time and rate of communication introduced by Walther as it applies to modern computer technology and the data gleaned from this study.

Student Experiences

One very interesting portrayal of a satisfying student experience was described by the youngest member of the interview subjects. In her account of a newly introduced procedure where the instructor recorded his voice over a Powerpoint presentation that was recorded as a Powerpoint “show” for a lecture, the student used the words “personal” and described the
experience as more “meaningful” than a series of slides she could view at her leisure. A Powerpoint “show” consists of the slides that make up the presentation, but the file is played like a video with timed transitions between the slides and/or the elements on each slide programmed into the presentation. The student said that having the voice of the instructor on what seemed to be a “simulated” lecture that occurred as a human interaction made the material more compelling. No special camera equipment was needed to accomplish this but the effect was interpreted as much more interactive even though the difference in file preparation was a simple change.

The social cues in such a situation provided a richer language experience than a basic text or a static visual description of the lecture topic and therefore immersed the student more readily in the material. This type of interaction is easy to accomplish with modern media capabilities and video/audio recordings as well as live streaming video can produce richer effects. Videoconferencing has existed since the eighties and provides a much higher variety of language channels “as based on the band width or number of cue systems available within them” (Walther, 1992, p. 56). Walther mentions videoconferencing as a more “rich” medium in his research when describing the cues-filtered-out theories but mainstream computer video capabilities were not developed enough to show a correlation between these techniques and CMC, nor were software applications to coordinate the playback of information with motion and audio available when these theories were originally discussed.

Another topic brought up by many of the interviewees was the use of a discussion forum of some sort as part of the peer interaction portion in many online classes. These experiences were reported as both satisfying and frustrating. The satisfying descriptions mostly involved the student being able to understand another person’s perspective on a topic while the frustrating
experiences ranged from student requirements in the discussion forums and the lack of instructor involvement and feedback during the exercise. This frustration can be interpreted with Sproull and Kiesler’s (1986) cues-filtered-out theory because the discussion boards are basically a series of text statements between two or more students in an electronic bulletin-board or weblog like format. This environment is where the only report of hostility was recorded by one interviewee and the anonymous and “lean” nature of those mediums is described in social presence theory (Short, Williams & Christie, 1976). Texts only environments are void of the facial expressions, vocal cues and other non-verbal structures that usually mediate the effects of hostility.

Discussion forums as part of the OLE were also criticized as sometimes not working correctly or that the requirement to participate was not perceived as something an online student should have to be involved in for a graded element.

SIPT and Educational Correlations

Walther’s introduction of time into the discussion of the existing CMC theories provides a lens in which to view students’ satisfying and frustrating experiences with online education, the causes for those reactions, and eventually find areas for improvement or potential pitfalls. Although this study was intended to isolate online education from traditional classroom education in an attempt to limit the data to that medium, both mediums are restricted by the learning environment, course design, and student motivation. Students overall satisfaction levels with online education in this study are described with terms like flexible and accommodating with the asynchronous nature of distance learning compared to traditional in-class learning without solicitation from the researcher.
Most respondents in this study noted that they would recommend online education to their peers but all the interviewees reported that time management was a requirement for success. Online education has the dichotomous potential to eliminate the student’s time constraint from attending class but can derail the unmotivated pupil who cannot apply enough structure to their lives to complete their assignments. The lack of regular interaction in scheduled class meetings was reported as a hindrance to one interviewee. Without structured self-monitoring, online students may not engage the material or the OLE on a regular basis and both the rate and capacity of communication will suffer.

Walther contends that the rate of communication is slower in CMC groups when he states, “…it appears that CMC and face-to-face groups operate at different rates” (1992, p. 61). In later work, Walther (1995) develops this notion further to suggest, “…information accumulates via exchanges over a consistently narrow but potentially social bandwidth” (p. 190). Modern CMC technologies have grown immensely (no longer a narrow medium) and bandwidth for both contextual and social channels has grown surprisingly since Walther’s original assessments. From this consideration, modern CMC has the potential for much more channel capacity and much more social information exchange than was originally anticipated. Accordingly, much of the student satisfaction with online education can be viewed in terms of increased information and social cues capacities, increased rate, and the deliberate use of these capabilities to affect positive outcomes for online education. Student frustration, on the other hand, can be viewed in terms of perceived lack of these same qualities as applied to the course design, the OLE, or the instructor involvement.

This analysis has found some topics that may be studied in further detail when examining student satisfaction and frustration with online education from a theoretical communication
perspective. Many more topics could be explored but the limited scope of this explorative study can only serve to make broad generalizations that serve as starting points for further research and analysis. Furthermore, an expansion of the methodology using more exacting instruments on larger samples would help to increase the validity of the topics discussed in this analysis.
Chapter 5: Summaries and Conclusions

Limitations of the Study

This study is limited by both the small sample size obtained as well as the sample parameters placed on the recruited interviewees. A target sample of eight participants with varying ages, life experiences, and education level were sought for this study. This number was adequate to obtain some personal accounts of student satisfaction and frustration with online education for the purpose of analysis using CMC and SIPT concepts but it is a very narrow sample from which to make any generalizations. Furthermore, the requirement that each participant had at least two online classes over the past two years may have limited the study to participants that simply had more favorable experiences with online education. A few instances of frustration were recorded during the research but all participants were satisfied with the overall experience of online education to some degree and all reported success in the medium.

As exploratory research, this study is also limited to only finding areas for further study. Subjects who had experienced high levels of frustration or who may have had completely unsatisfactory experiences are absent from this pool of participants. As such, the data collected may not represent a very balanced characterization of available experiences from which to interpret using CMC theories or any other grounded academic theory. In what was intended to ensure that the participants had enough familiarity to report their experiences adequately for the purpose of analysis, the study may have limited the sample to mostly satisfying experiences from a student population that had higher motivational characteristics and sustained success in education in general. Nevertheless, the limitations of this study do not negate the discussion of student satisfaction and frustration with online learning. It only shows that more exhaustive
Another limitation of this study involves the definition of satisfaction and frustration as a guiding interview concept. The terms were used as personally subjective identifiers with loose application in order to coax interviewee comments and did not emerge organically from the data. The terms were not normalized or codified for quantifiable analysis.

Recommendations for Further Study

From this study, further research could focus on the specific instances of satisfaction and frustration in larger populations for greater generalization of these findings. A potential similar study with deliberate sampling of students who dropped out or struggled in the medium might shed more light on the conditions that correlate to or cause frustration for students in online courses. More pragmatically, further research from the student perspective can help schools determine what practices to champion or avoid in order to retain and grow student enrollment in online courses.

If further studies of this perspective are undertaken, a more comprehensive understanding of CMC theoretical principles as they apply in today’s technological environment might help to eliminate or diminish the inherent bias toward online education and a comprehension of the
medium as a useful extension of existing pedagogical practices could prevail. Another possibility for future studies might seek to incorporate other communication or social science theories such as Berger and Calabrese’s (1975) Uncertainty Reduction Theory or Giles’ (1987) Accommodation Theory into the analysis of student experiences. Many opportunities for various interpretations of student experiences are present in existing grounded theories. These theories and their interpretations across computer mediated platforms might help to establish new theoretical understanding of the online educational environment. An intentional and exhaustive incorporation of multiple existing established theories about communication and social interaction would be required if future research seeks to establish generalizations about student satisfaction and frustrations with online learning.

Conclusions

This study found that students experience both satisfaction and frustration in online classes—much the same way students in traditional classroom environments experience those same feelings. The research conducted here is only foundational but does show that the topic is mature enough for a shift from the institutional perspective to the student perspective. The fact that all the respondents described online education in contrasting terms to traditional courses shows that online education shouldn’t be thought of as a separate or competing entity to traditional classroom environments but an evolutionary step in making secondary education available to a much larger population than was once imagined.

This study shows that students in online classes can provide detailed data about their experiences that can be analyzed using CMC and SIPT concepts. It failed to show any definitive correlation between student characteristics or life experiences to their experiences of satisfaction
or frustration with online education but that restriction may be attributed to the sampling technique. Those experiences do provide a broad understanding of the various problems and advantages of online education but an expanded understanding of grounded CMC theory and a further development of SIPT concepts would provide very useful to research of this nature.

Existing CMC theory may be limited by the era in which it was conceived but SIPT concepts do shine some light on the modern online education model. Walther’s concept of information delivered over time to alleviate or overcome the perceived colder nature of CMC opens a sliver of understanding to the potential of online education but researchers will require a better understanding of CMC from a grounded theoretical perspective in order to address the modern capabilities of the technology. After all, these theories were established to explain CMC in the last century while modern computer communication technologies were in their infancy.

Modern CMC bandwidth, with its capabilities to deliver similes of human presence never imagined a mere two decades ago, is much more complex than the cues filtered out view previously established. Modern bandwidth amplifies information transfer rate by moving more information with each transaction, which can serve to accelerate the personal exposure shared in the medium. A more developed CMC/SIPT theoretical perspective could be developed within the study of student experiences and a more comprehensive value of online education might be realized in the process.

Additionally, any advancement of the “golden mean” toward the online student’s feelings and thoughts about the experience can only serve to validate the medium further. An Aristotelian call for a balanced vision to the research of online education is essential to confirming its legitimacy as a progression of secondary education. This study did find areas of both student
satisfaction and frustration but the findings are minimal—especially when compared to the
dearth of studies looking at the medium from the institutions’ perspectives. An uncovering of the
deeper meanings behind students’ frustrations may go a long way in balancing the scales of
understanding toward a better student experience in online studies. Higher education is a
discretionary choice made by adult learners and online learning is the academic medium of the
future; however, online education is routinely seen as an alternative to traditional classroom
methods in a way that marginalizes its capabilities. A shift toward more research of students’
perspectives is needed in order to understand and improve online education to its fullest
potential. Only then will it be fully accepted as an authentic medium instead of a lesser substitute
to its predecessor.

The sciences of pedagogy and communication are thoroughly intertwined and both are
easily studied within the experiences of online education. The philosophies of educational
opportunity and the delivery mediums available to actuate that opportunity fully are in a
transformation that requires new theoretical understandings before the true value of online
education might be realized. Education is an inarguable value to society and its evolution is
constant. Advancement of CMC and SIPT concepts to incorporate the capabilities of modern
technologies and their application in instruction and learning is needed to better understand the
landscape of communication within online education.
References

Aristotle (1987). *Nicomachean ethics* (Book 2, Chapter 1, 1103: 14-16 and Chapter 6 (1107:1-3)


Appendix A. The following interview questions are designed to garner a broad understanding of the respondents’ self-perception of their overall life experiences, familiarity with CMC, and their individual experiences with online education that can be considered satisfying or frustrating. The questions are designed to encourage open-ended answers; however, the questions about their experiences with online classes are intended to encourage elaborate answers.

Confidentiality Statement: This interview is part of an exploratory study for a Master’s thesis. All personal information will remain confidential. Names of persons or institutions will not be repeated and pseudonyms will replace any such recorded references for the purpose of analysis.

Questions regarding the student’s life experiences:

1. Tell me about yourself in terms of age, background, and education and employment history.

2. Tell me about your responsibilities, such as relationships, dependents, and financial obligations.

3. Select the appropriate response to the following statement: “I am solely responsible for success in school, work and life in general.” Explain why you feel that way.
   
   A. Strongly agree  B. Agree  C. Disagree  D. Strongly Disagree

Questions regarding student’s experience with CMC before taking online classes:

4. Think back to the period before you started taking online classes. Describe your comfort level with computer technology at that time.

5. Once again, think back to before you started online classes and describe your experience using internet-based communication platforms such as social media, chat rooms, electronic bulletin boards and/or weblogs.

6. Describe your experience using e-mail before you started taking online classes.

Questions regarding the student’s experiences with online classes:

7. A. Please describe your overall satisfaction level with online classes and online education.

   B. Describe the experiences in your online classes that you found satisfying besides getting a good grade. I will ask the respondent to elaborate on their answers and ask for specific situations.

8. A. Please describe your overall frustration level with online classes and online education.

   B. Describe the experiences in your online classes that you found most frustrating besides getting a poor grade. I will ask the respondent to elaborate on their answers and ask for specific situations.

9. Select the appropriate response to the following statement: “I would recommend online education to my peers.” Please give a brief reason for your answer.

   A. Strongly agree  B. Agree  C. Disagree  D. Strongly Disagree