ATHABASCA UNIVERSITY

WHEN ONLINE STUDENT DISCUSSIONS BECOME CHEATING: PERCEPTIONS OF ACADEMIC INTEGRITY

BY

RUDY PEARISO

A thesis submitted to the

Athabasca University Governing Council in partial fulfillment

Of the requirements for the degree of

MASTER OF DISTANCE EDUCATION

Athabasca, Alberta

April, 2010

ATHABASCA UNIVERSITY

The undersigned certify that they have read and recommend to the Athabasca University Governing Council for acceptance a thesis WHEN ONLINE STUDENT DISCUSSIONS BECOME CHEATING: PERCEPTIONS OF ACADEMIC INTEGRITY submitted by RUDY PEARISO in partial fulfillment of the requirements for the degree of MASTER OF DISTANCE EDUCATION.

Cynthia Blodgett, Ph.D.

Supervisor

Mohamed Ally, Ph. D.

Committee Member

Terry Anderson, Ph. D.

Committee Member

Date: _____,2010

DEDICATION

This thesis is dedicated to my family and friends for all their support and encouragement and to the faculty and staff members who strive to make learning a quality event. I also dedicate this work to students and faculty for sharing their viewpoints and stories and for enriching my own perspectives.

ABSTRACT

The primary objective of this study was to investigate the varying perspectives of academic integrity in relation to online learning and the use of Web 2.0 technologies. The study design was an explanatory mixed methods case study that focused on one medium sized Canadian University with students enrolled in a single online distance education course and faculty members from various online distance education courses. Data collection involved close-ended surveys followed by open-ended follow-up questionnaires. Although all participants were offered a choice of follow-up: face-to-face, telephone or online, all chose the online option. Sixty-nine students returned the closed ended survey; six agreed to follow-up. Ten faculty returned the closed-ended surveys; five agreed to the follow-up. Within the student and faculty groups, varying perspectives of what is permissible online and on-campus were held and these perspectives do not always match the institutions' policies. Themes that emerged from participant's statements concerned four cultures: institutional, faculty, student and learning. The overarching concept revealed by this study is that because the players participating in these cultures understand academic integrity differently, a dissonance exists that may or may not be resolved. Recommendations include the use of clear communication when expressing policies about the use of sanctioned collaboration and the use of Web 2.0 technologies. Education as an intervention directed towards institutions, faculty and students may lessen the gap, but that is a focus for further research. Duplication of this study with a larger population would also be worthwhile.

ACKNOWLEDGEMENTS

Learning is exhilarating, tiring, fun, confusing, challenging and sometimes just plain hard work. Although learning is sometimes solitary, it is also communal. Many people helped in my community of learning. First and foremost is my thesis supervisor Dr. Cynthia Blodgett. She introduced me to my first research course and demonstrated invitational approaches to my learning: pushing me when necessary and nurturing me when appropriate. My friend and colleague Dr. Eleanor Pierre provided numerous cups of tea and glasses of wine while gently questioning my assertions and prompting me to move forward. My thesis committee provided me with helpful suggestions and contributed greatly to my academic experiences. My family and friends deserves heartfelt thanks, for without them, there would not be a thesis. Finally, my colleagues in the Centre for Extended Learning at the University warrant acknowledgment and gratitude. Thank you for recognizing the importance of this work and supporting me through the long process.

TABLE OF CONTENTS

List of Tables xi
CHAPTER 1 1
INTRODUCTION 1
Purpose of the Study 1
Grand Tour Question 2
Definition of Terms 3
Delimitations and Limitations 5
Delimitations 5
Limitations 6
Audience 7
Significance of the Study 7
CHAPTER II 9
LITERATURE REVIEW 9
Net Gen Students-New Views 10
Music Download 11
Course Design 11
Consequences of Dishonesty 13
Collaboration 13
Citation Methods 14
Culture 16
CHAPTER III 17
METHODOLOGY 17
Case Study 17

Research Paradigms 18
Personal Lens - Pre-existing Assumptions 21
Research Design 23
Validity 24
General Validation 24
Data Collection Procedures 25
Instrumentation 26
Recruitment 27
Faculty participants 27
Student participants 28
Procedures common to both sets of participants 29
Ethical issues of e-research 29
Other ethical issues 30
Interviews 30
Data Analysis 31
Participants 31
Faculty respondents 31
F1 Overview. 31
F2 Overview 32
F3 Overview 32
F4 Overview 32
F5 Overview 33

Student respondents 33
S1 Overview 33
S2 Overview 33
S3 Overview 34
S4 Overview 34
S5 Overview 35
S6 Overview 35
Analysis of the Questionnaire 35
Analysis of the Follow-up Questionnaire Data 38
Development of Categories and Codes 39
Theme Development 40
Strategies for Validating Findings 40
CHAPTER IV 43
RESULTS AND DISCUSSION 43
Mixed Methods Procedure 43
Questionnaire Results 44
Digital Natives, Digital Immigrants, Digital Tourists and Accents 45
Digital Natives 45
Digital Immigrants 46
Digital Tourists and Accents 46
Web 2.0 Technology Usage 47
Scenarios 50

Follow-up Questionnaire Analysis 51
Codes 51
Categories 52
Communication Category 52
Evaluation Category 55
Experiences Category 57
Governance Category 62
Passion Category 65
Social Context Category 68
Structure Category 70
Themes 72
Cultural Dissonance 73
Discussion 73
Institutional culture 73
Academic Violations 75
Violation Dissonance 77
Ethical Foundation 78
Print vs. Online 78
Faculty Culture 79
Philosophy of Teaching 79
Technology as Toy 80
Expectations versus Experience 81

Student Culture 82
Creative Problem Solving Capabilities 83
Levelling Effect 83
Value System 83
Learning Culture 84
Enrichment 84
Collaboration is An Element of Learning 85
Culture Clash 88
Summary 88
CHAPTER V 90
CONCLUSIONS AND RECOMMENDATIONS 90
Research Questions 90
Grand Tour Question 90
Sub question one 92
Sub question two 92
Sub question three 93
Sub question four 93
Themes 94
Interrelationship of the four cultures 96
Implications for Practice 97
Recommendations for Future Studies 100
Applying Mixed Methods Research to Online or Web 2.0 102

Enrolment Process 102
Final Comment 103
REFERENCES 104
APPENDICES 118
Appendix A 119
Initial survey for Students 119
Appendix B 122
Faculty Initial Survey 122
Appendix C 125
Academic Integrity Scenarios 125
Appendix D 128
Recruitment Letter 128
Appendix E 130
Student Recruitment in LMS 130
Appendix F 131
Email Consent 131
Appendix G 132
Code Definitions 132

List of Tables

TABLE		PAGE
1	Responses to survey questions……...	36
2	Neuman's 5 part coding system……..	39
3	Distribution of Web 2.0 technologies by percentage……..	47
4	Responses to Scenarios……...	50
5	Communication Category……...	53
6	Evaluation category……	56
7	Experiences category…….	58
8	Governance category……..	63
9	Passion category…….	65
10	Social context category…….	68
11	Structure category……..	71

CHAPTER 1

INTRODUCTION

> A first-year student at Ryerson University in Toronto who has been accused of cheating after helping run a Facebook [sic] study group could get expelled from school pending a hearing by a special committee.
>
> (CBC website, 2008)

This mixed methods case study investigation is about student and faculty perceptions of academic integrity and the use of Web 2.0 technologies such as wikis, blogs and social software like Facebook®. As evidenced by the Ryerson example above, interest and possible confusion about the use of social software and the impact on such issues as plagiarism and unsanctioned collaboration have heightened. This study identifies some of the perspectives that students and faculty hold about the new technologies and the effect on academic integrity.

Purpose of the Study

The purpose of this mixed methods case study was to explore the varying perspectives of academic integrity in relation to online learning and the use of Web 2.0 technologies. When perspectives of what is permissible and what is construed as academic dishonesty are not congruent, the result can be catastrophic for the student and alarming for the faculty member. At best a student could have to redo an assignment or receive a lower mark while major consequences could be a failing grade or even expulsion (Hamilton & Richardson, 2007). As various methods for online communication develop, students and faculty may be viewing academic integrity from two different paradigms (Philip, 2007). “A paradigm is like the rules of a game: one of

the functions of the rules is to define the playing field and domain of possibilities on that field" (Barr & Tagg, 1995 p. 14). This study discovered those varying perspectives and described them.

Grand Tour Question

Creswell, (2003) suggests that qualitative questions are broad questions "so as to not limit the inquiry (p. 105). Data for this study was gathered using a questionnaire with short answers followed by online scenario-based open-ended questionnaire. The *Grand Tour Question* (Spradley & McCurdy as cited in Fetterman, 1998) was "What are the varying perspectives of academic integrity in relation to online learning with the use of Web 2.0 technologies?" Stake (1995) suggests that "Case study fieldwork regularly takes the research into unexpected directions, so too much commitment in advance is problematic" (p. 28). Other associated sub-questions were:

1. What constitutes official and unofficial discussions?
2. How do students understand academic integrity?
3. How does faculty understand academic integrity?
4. How could online collaboration be construed as academic dishonesty?

The initial questionnaires were primarily demographic with the intent to identify who was willing to participate in the study, and who had been involved with Web 2.0 technologies (Appendices A and B). In addition, included (Appendix C) are academic integrity scenarios that were presented to both faculty and students in the follow-up questionnaire. Faculty and students were asked to rate the scenarios as either cheating or plagiarism, then state why or why not.

Definition of Terms

Well defined terms help the reader to understand the meanings of terms used in the same way as the researcher. The following defines many of the terms used within the study.

Academic integrity: refers to the ethical and moral conduct of those involved in academia.

Case analysis: Typical format of within case analysis is to richly describe each of the cases and to note any themes with in the case (Creswell, 2007).

Cross case analysis: Typical format for cross case analysis is to look for themes that develop across the multiple cases (Creswell, 2007).

Culture: "the sum total of the ways of life of a people; includes norms, learned behaviour[sic] patterns, attitudes, and artifacts; also involves traditions, habits or customs; how people behave, feel and interact; the means by which they order and interpret the world; ways of perceiving, relating and interpreting events based on established social norms; a system of standards for perceiving, believing, evaluating, and acting" (Tesol glossary, n.d.)

Declarative knowledge: According to Smith and Ragan (2005) declarative knowledge is the knowledge that is often recited or memorized. Facts and figures often are necessary to understand concepts. In declarative knowledge students are not expected to apply the information that they have learned, but to be able to put it into their own words or to recite it back.

Digital Immigrants: Term coined by Prensky (2001) to describe people who have not grown up with technology, but may have adapted it later in life. These people have been born before 1983.

Digital Natives: Term coined by Prensky (2001) to describe people who have grown up with technology and were born after 1983.

Explanatory design: a two phase mixed methods research design in which the purpose of the qualitative data helps to build upon or explain the quantitative data (Creswell and Plano Clark, 2007).

Folksonomies: Folksonomy is the term coined by Vander Wal in 2004 to indicate the "tagging" of information and objects for personal retrieval. "There is still a strong belief the three tenets of a Folksonomy: 1) tag; 2) object being tagged; and 3) identity, are core to disambiguation of tag terms and provide for a rich understanding of the object being tagged" (Vander Wal, 2007).

Net Gen: another term given to people (Oblinger & Oblinger, 2005) who were born after 1980 and have always grown up with computers and the internet.

Official discussions: those discussions that are sanctioned and designed by the course author or instructor of a course.

Social Constructivism: In this world view, participants seek understanding of the world in which they live and work. The intent of this type of research is to rely on the individuals' view or perspective of the situation (Creswell, 2007).

Social Network: Boyd and Ellison (2007) describe social networks as "web-based services that allow individuals to (1) construct a public or semi-public profile within a bounded system, (2) articulate a list of other users with whom they share a connection,

and (3) view and traverse their list of connections and those made by others within the system. The nature and nomenclature of these connections may vary from site to site."

Unofficial discussions: any other form of discussion that occurs either online or offline that is not set up nor sanctioned by the instructor or course author.

Web 2.0: Is a term coined by O'Reilly Media in 2004 to describe a second generation of the web. This describes more user participation, social interaction and collaboration with the use of blogs, wikis, social networking and folksonomies.

Delimitations and Limitations

Delimitations. This study was delimitated by including participants that were restricted to faculty and students of a single Canadian institution of higher learning. It was also delimited by the inclusion of participants who have experienced the Web 2.0 technologies and to those students who had access to the University learning management system (LMS). This study was also delimited by the demographics within the student/faculty population of the program selected at this university. The study university will be referred to hereafter as the University.

An additional delimitation was the method of communication with participants through the use of the University learning management system. In the initial stages of student recruitment, only the LMS was used. The LMS supports communication for large numbers of students through the use of announcements, but is limited in its ability to reach the same number of faculty. Not all faculty were enrolled in one course. Email was the method of communication and recruitment for faculty, as the learning management system was not appropriate for this type of communication because faculty were not all enrolled in one course.

A further delimitation was the method of investigation. This study was delimited by the case study method itself. The study environment was bounded as a specific issue: the understanding and expectations of online academic dishonesty. Because this was a mixed methods investigation with emphasis on qualitative investigation it was not intended to be generalized outside the specific bounded system.

Limitations. A limitation of this study was the changing demographics of the distance education (DE) student at the University. Students may be meeting face-to-face and not online, but still participating in online collaborative learning that may not be sanctioned by the instructor, because 80% of the University on-campus students are taking a DE course. The consequences of not revealing their involvement in face-to-face collaboration is not known at this time.

The study was further limited to those students and faculty that responded to the questionnaire and agreed to answer subsequent questions. Participants who are comfortable responding to an online survey may respond differently than those who are not comfortable with online surveys.

The online surveys were designed according to suggestions from Anderson and Kanuka (2003). Those suggestions included:

- Keeping the survey short
- Keeping questions directive to purpose
- Keeping questions concise
- Keeping questions simple
- Keeping questions single faceted
- Using plain language

- Ensuring that scales are descriptive
- Keeping questions bias free

Audience

This study may have relevance for both faculty and students who want to know that perceptions of permissible content are either similar or dissimilar because this knowledge may increase the academic integrity of the work submitted. "All Associate Deans report that their experience indicates many students and faculty are in need of education regarding academic integrity" (Academic Integrity Committee, 2007, p. 7). This lack of education can lead to misunderstandings by both faculty and students and may result in unexpected consequences.

This study may be useful to policy makers because many policies at higher education institutions do not reflect the ubiquity of online learning challenges to academic integrity (Waterhouse & Rogers, 2004). Having a clear understanding of the online issues and perceptions from both faculty and students will assist in the development of policies and procedures that include academic integrity in online learning.

Significance of the Study

Although there is much research on a number of issues surrounding academic integrity in online education, (Kidwell, et al., 2003; McCabe et al. 2002, 2003; Townley & Parsell, 2004) there is little research on academic integrity and online collaborative learning with Web 2.0 emerging technologies. The University Committee on Student Appeals (UCSA) states, "There continues to be confusion re: online collaborative learning, group/team work on assignments or projects and that …, there are *degrees* of teamwork" (cited in Academic Integrity Committee, 2007, p. 6).

The Ryerson example, previously stated, where the student found himself accused of academic dishonesty, serves as an indicator of the need for further investigation (CBC website, 2008). In an unrelated incident about academic integrity, a graduate student wrote a message to fellow students asking them to post any previous assignment/exam questions to a forum within the University's learning management system. Included in this request, the student noted that it was not cheating because the purpose was to ask for the questions not the answers. The rationale given was that this student needed to focus attention on important content, and to do well in the time that they had allotted for the course work. This example suggests that the student felt that asking for and posting the answers would be construed as being dishonest, but not the questions.

The UCSA noted that "students are responsible members of the University community and that the conduct of the vast majority is exemplary, but there tends to be an alarming trend in cheating by first year students and some students feel entitled, deem it to be acceptable to cheat to further their academic careers…" (Academic Integrity Committee, 2007, p. 6).

This study is important because it will identify faculty and student perceptions of cheating and academic integrity in light of online learning and the use of Web 2.0 technologies. In the Ryerson example, the undergraduate student participated in an online study group created by him, but not sanctioned by his faculty. The second example of a graduate student who sought questions from current students but did not view this type of interaction as contrary to academic honesty, illustrates the need for clear definition of what is perceived to be cheating and what is not.

CHAPTER II

LITERATURE REVIEW

> Inadequate attention has been given to the nuances of academic integrity occasioned by the sharing of PowerPoint notes, the ease of access to websites, and the degree to which infractions of authorship parallel or are different from infractions to in-print authorship.
>
> (Robinson-Zañartu, Peña, Cook-Morales, Peña, Afshani & Nguyen, 2005, p. 321)

Although academic integrity has always been a concern for institutions of higher learning, the traditional view of academic integrity has been challenged by the ubiquity of online learning. Historically academic integrity has meant the ethical soundness of an individual in the academic world. Recently the term has been applied to the processes that accompany academic misconduct and plagiarism (Hamilton & Richardson, 2007). A popular perception that there is more cheating or plagiarism in online learning is held by many faculty and students (Baron & Crooks, 2005; Groark et al., 2001; Lester & Diekhoff, 2002; Robinson-Zañartu, et al, 2005), and that online distance learning is not seen as being as credible as on-campus learning (Yick, Patrick & Costin, 2005).

In a recent article in the popular press, a student who was involved in what he called an online study group on *Facebook*® was charged with cheating (CBC website, 2008). This student reportedly saw his Facebook® study group as not unlike those on-campus groups where students often share learning strategies (theeyeopener.com, 2008). On-campus study groups are often encouraged by the faculty as a way for students to

master knowledge that they may not have been able to learn unless they had access to alternative learning methods. In this situation the student did not believe that there was a difference between official study groups on-campus and unofficial study groups online (Hodges, 2006). Robinson-Zañartu et al. (2005), in a study on faculty perceptions report that not enough information about the citation styles and expectations regarding the new media exist.

Net Gen Students-New Views

The traditional view of academic integrity has been challenged by the Net Gen students (Hodges, 2006). The Net Gen students (sometimes referred to as Millennial or Digital Natives) are those students who were born after 1983, have grown up with technology and do not necessarily see the distinction between on-campus interactivity and online discussions (Kvavik, 2005; Philip, 2007; Prensky, 2001). Milliron and Sandoe (2008) posit that the sharing of knowledge is perceived differently by the Net Gen students and that software, including the Web 2.0 technologies, makes it easier for students to share the information in a seamless way (Milliron & Sandoe, 2008). Net Gen students tend not to make as clear distinctions of physical space and non-physical space. Net Gen students have grown up perceiving information technology differently than their older instructors (Prensky, 2001). Attitudes, expectations and learning styles reflect the environment in which they were raised (Underwood & Szabo, 2003). The perception of this environment is very different for faculty and administrators many of whom are Digital Immigrants (Prensky, 2001).

Lévy (as cited by Philip, 2007) has identified the Net Gen students as those who are part of the "knowledge building paradigm" and has indicated that they possess a

characteristic called "virtualization, a process in which an event is detached from a specific time and place, becomes public [and] undergoes heterogenesis." In this context, heterogenesis refers to the change that one incurs as one makes the shift from traditional media to digital media and the personal changes that happen in one's thinking. One of the other characteristics that Lévy (as cited in Philip, 2007) identifies as part of the virtualization is the *sharing* characteristic. This characteristic is described as "the distribution of conceptual artifacts among communities interested in them" (n.p.). Downes (2007) asks "[c]an the learning space in a learning management system be confused with the space found in Facebook®?" This may depend on the choice of the teaching-learning pedagogy and if the pedagogy is integrated into the online learning.

Music Download

Suler (2004) posits that the online environment fosters a tendency for some people to negate moral responsibility in their communication and behaviour with others. He calls this the *disinhibition effect* and suggests that some people find it easier to become angry with others and to vent their displeasure in ways that would be untenable in person. Stephens, Young and Calabrese (2007) citing a survey of undergraduates by Business Software Alliance in 2003 found that 69% of students downloaded music but only 2% consistently paid for that music. Stephens et al. speculated that there might be a correlation between music piracy and plagiarism, but the authors that supported that assertion found no studies.

Course Design

Distance education**,** defined as students and faculty separated by space and time (Moore & Kearsley, 2005)**,** is moving from the transmissive style of teaching strategies

to the more online collaborative learning strategies (Muirhead, 2004). Some course designs, specific to the discipline, are more conducive to the philosophy of constructivism, while others lend themselves to the philosophy of objectivism (Kanuka & Anderson, 1999). When students experience courses that have a more constructivist design style they may believe that they have a good understanding about academic integrity. If those same students take courses that have objectivism as a design style, the understanding of what constitutes academic integrity may not be as distinct (Roberts, 2005). Students may not realize the underlying philosophical premise under which the faculty member has designed a course and are unable to recognize an alternate philosophical underpinning. Where one course could actively encourage students to collaborate, another course may not have the same encouragements, but not explicitly state that collaboration is not allowed.

Waterhouse and Rogers (2004) suggest that administration should be very careful about what is considered official and unofficial learning spaces because a lack of procedures around these can lead to unintentional academic dishonesty. They also stress that when electronic artifacts produced by students are included in assignments, clear policy statements of what constitutes academic integrity must be identified. Statements about the use of peer collaboration must also be clearly stated or students may assume that all types of collaboration are permissible as in the case of the Ryerson student (eyeopener, 2008). When there is a discrepancy between the policy and what teaching assistants (TA) and instructors believe to be academic dishonesty, student appeals may be successful which can foster apathy towards academic integrity (Academic Integrity

Committee, 2007). Students may not actively choose to be dishonest but may make incorrect assumptions about what is allowable.

Consequences of Dishonesty

Alternatively, students are generally aware of the punishments but may not recognize the personal consequences of the infringement. Students may not be aware of the accountability for knowledge and skills, and are caught up in the culture of competition for high grades (Harding, Carpenter, Finelli & Passow, 2004). Faculty may not explain to these students the personal consequences of academic dishonesty because faculty may assume that students understand the implications of academic dishonesty in ways that faculty themselves understand the duplicity (Carnegie Mellon 2008; Kidwell, Wozniak & Laurel, 2003). Personal consequences of academic integrity include: negative impact on further education; possible rejection to graduate studies; limited access to co-operative education jobs; and credibility that may be questioned in a number of areas including any research findings (McCabe & Pavela, 2000; Harding et al., 2004).

Collaboration

When the expectations are not clearly identified and discussed with students by a course outline or policy statement, students may make assumptions about the permissibility of collaboration (Academic Integrity Committee, 2007).

In this community of collaboration, when students interact with each other, formally or informally, the distinctions in the types of academic integrity are unclear for both faculty and students. When is collaboration expected and welcomed? When is it considered academic dishonesty? Students are often reluctant to ask a faculty member for repeated help if they do not understand a concept and will seek clarification elsewhere. If

students are using unsanctioned Web 2.0 technologies to communicate with classmates to solicit answers, that collaboration may constitute cheating. If the faculty member has been unavailable, or is not perceived as approachable, the student may not feel that they can risk asking a question that might illustrate their ignorance (Garrison & Cleveland-Innes, 2005; Stodel, Thompson & MacDonald, 2006).

Citation Methods

Even when students want to cite their Web 2.0 musings there does not always seem to be an appropriate method to use. Gray, Thompson, Clerehan, Sheard and Hamilton (2008) state, "[e]stablished conventions for paraphrasing and quotation, referencing and citation, originality and attribution do not appropriately convey the nature of content in these forms, which are described as inherently co-constructed, connected and continuous…" (p. 113). The American Psychological Association (APA, 2001), style guide states that "[i]f information is obtained from a document on the Internet, provide the Internet address for the document at the end of the retrieval statement?" (p. 231). The newest version of the APA style guide (APA, 2010) refers to blogs and podcasts, and their citation methods, and even has a blog that shares information and clarification about citation. The APA blog recognizes the transientness of wikis and other Web 2.0 technologies and the problems with citing works properly, and does suggest ways of citing the works properly. APA has also responded to the newer technologies by writing a blog that shares information that perhaps did not make it into the newest style guide.

Darbyshire & Burgess (2006, as cited in Gray et al., 2008, p. 113), "cite an academic integrity initiative to encourage students to know and follow (carefully) the rules for quoting and referencing; but the question is, how many academics are able to

teach students to apply the existing rules to these new forms?" This suggests that the technologies may be evolving much quicker than citation methods and academia.

Some websites are attempting to provide the user with helpful information about citing their website by giving instructions on how to properly use someone else's information or thoughts. A website wiki on science fiction writing, called Memory Alpha, has suggestions for citing resources from the wiki. This guide is reflective of the technology responding to the needs of students and others who might be using these technologies.

- You should *not* cite any particular author or authors for a Memory Alpha article.
- Your citation should list both the article title and Memory Alpha: The Free *Star Trek* Reference, just as you would for an article in an edited book or other collection.
- The citation should include the *full date and time* of the article revision you are using. This is necessary because any article may be edited at any time, and an article may change drastically, even within the space of a single day. (Memory Alpha's time is kept in Coordinated Universal Time, or UTC.)
- Most citation styles require the full article URL. If greater brevity is desired, however, you may optionally include just the Memory Alpha URL (e.g. http://www.memory-alpha.org/) since the article URL can be inferred from the article title.
- Many citation styles also request the date on which you retrieved the page; we suggest omitting this if your style guide allows, however, since the inclusion of the revision date (above) makes the retrieval date unnecessary.

- Each Memory Alpha article should normally be a separate citation

(Memory Alpha, 2009)

Culture

Moral and ethical issues are at the heart of academic integrity. Much of the literature focuses on the detection of plagiarism and cheating through the use of detection software, however in comparison very little seems to centre on the avoidance of plagiarism altogether. Differences in ethnic culture may be part of the rationale for the cheating behaviour (Kaur, 2006; Leask, 2006; Pulvers & Diekhoff, 1999) but although online learning is mentioned, little has been found that suggests that the culture of learning in the online context changes the way that cheating is perceived by others.

Milliron and Sandoe (2008) posit that students will cheat, and that online delivery merely facilitates that cheating. These authors declare that there needs to be a better understanding of how the culture of online collaborative learning using Web 2.0 technologies affects academic integrity.

CHAPTER III

METHODOLOGY

> …good research is a matter not of finding the one best method but of carefully framing that question most important to the investigator and the field and then identifying a disciplined way in which to inquire into it that will enlighten both the scholar and his or her community.
>
> (Shulman, 1997, p. 4)

The purpose of this case study was to primarily explore, the varying perspectives of academic integrity in relation to online learning and the use of Web 2.0 technologies. This chapter describes the research design, the recruitment of student and faculty participants and the procedures for data collection and analysis.

Case Study

" In general, case studies are the preferred strategy when "how" or "why" questions are being posed, when the investigator has little control over events, and when the focus is on a contemporary phenomenon within some real-life context" (Yin, 2003, p. 1). Case study inquiry allows the researcher to look at the issue within a bounded system, and to seek a better understanding of the question (Creswell, 2007). A bounded system described by Stake (1995) is an integrated system rather than a process. Merriam states that "[a] qualitative case study is an intensive, holistic description and analysis of a single instance, phenomenon, or social product" (1998, p. 27). She further describes the case as "a thing, a single entity a unit around which there are boundaries" (1998, p. 27). Bounding a case allows for the identification of what will be studied and what will not be studied (Miles & Huberman, 1994). In essence it identifies the scope of the project.

This case study was designed to explore the varying perspectives of academic integrity in online collaborative learning through the use of Web 2.0 technologies and the purpose of selecting the case study as a method of investigation was to look at the issue of online academic integrity through the lens of both students and faculty. This case study of online collaborative learning and academic integrity was conducted over a limited time and within the bounded system of a Canadian university (Creswell, 2007; Stake, 1995). The University is dual mode, in that on-campus (face-to-face classes) and distance education classes are conducted.

Research Paradigms

Neuman (2006) summarizes decades of understanding that positivist researchers establish a hypothesis and then seek to prove or disprove that hypothesis through the collection of empirical data and that interpretive researchers observe and speak with their participants to understand how they construct meaning from their experiences. Neuman further states that researchers who conduct positivist research are likely to conduct cost-benefit analysis, while interpretive researchers are likely to do exploratory research.

Mixed methods design, on the other hand is described as "attempting to respect fully the wisdom of both of these viewpoints while also seeking a workable middle solution for many (research) problems of interest" (Johnson, Onwuegbuzie & Turner, 2007, p.113).

Neuman (2006) advises that positivist researchers establish an hypothesis and then seek to prove or disprove that hypothesis through the collection of empirical data. The tools that the quantitative researcher uses for both data collection and data analysis are seen as objective (Bogdan & Biklen, 1998; Creswell, 2003; Neuman, 2006). Interpretive

researchers observe and speak with their participants to understand how they construct meaning from their experiences. Qualitative research assumes that "meaning is embedded in people's experiences and that this meaning is mediated through the investigator's own experiences" (Merriam, 1998, p. 6). Bowen (2005) states "the main strength of qualitative research is that it yields data that provide depth and detail to create understanding of phenomena and lived experiences" (p. 209).

In contrast, Bogdan and Biklen (1998) instruct that qualitative research employs "a different vocabulary and ways of structuring the research process" (p. 4). Bowen (2005) states "the main strength of qualitative research is that it yields data that provide depth and detail to create understanding of phenomena and lived experiences" (p. 209).

Mixed methods research has emerged as the third methodological movement for social research (Creswell, 2003; Creswell & Plano Clark, 2007; Denscombe 2008; Johnson, Onwuegbuzie & Turner, 2007). "As a research paradigm, the mixed methods approach incorporates a distinct set of ideas and practices that separate the approach from the other main research paradigms. However, there are also aspects of the mixed methods research on which there is relative lack of consistency or agreement" (Denscombe, 2008, p. 270). Defining mixed methods research, Johnson, Onwuegbuzie & Turner attributed Greene (2006) for clarifying that "the word *methods* should be viewed broadly… meaning 'methodology" and that this broad interpretation of mixed methods research "allow inclusion of issues (e.g. ontology, epistemology, axiology)" (2007, p. 118).

Tashakkori and Teddlie (1998, 2003, as cited in Denscombe 2008) discuss that the mixed method has the following characteristics:

- quantitative and qualitative methods in the same study

- specifies sequencing of data collection and analysis
- quantitative and qualitative data relate to each other and that
- pragmatism is the philosophical basis for the research.

Creswell, Shope, Plano-Clark and Green (2006) conclude that mixed methods research provides an opportunity to more fully describe the data than a single method of analysis would provide. Denscombe (2008) states that the combination of qualitative and quantitative methodologies is often based on a pragmatic "practice driven need to mix methods" (p.280).

Denscombe's reference to "relative lack of consistency or agreement" (2008, p. 270) is outlined by Creswell (2006) in his discussion of gray areas. He stated that "types of mixed methods studies that might conform to part of our definition, but not all of it, we call the gray areas" (p.12). Creswell further outlined four examples of research that comprise the "gray area" of mixed methods research (p. 12-13):

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

Mixed methods research involves four distinct designs (Creswell & Plano Clark, 2007): embedded, explanatory, exploratory and triangulation. The embedded design "mixes the different data sets with one type of data being embedded within a methodology framed by the other data type" (p. 67). The explanatory design is a "two phase mixed methods design whose purpose is to use qualitative data to help "explain or

build upon the initial quantitative results" (p. 71). The exploratory design uses quantitative data to build upon the qualitative data and that exploration is needed for one of several reasons: the development of a test instrument, "identify important variables to study quantitatively when variable are unknown, and …when a researcher wants to generalize results to different groups"(p. 75). The triangulation design is the most common and well known approach with a purpose of obtaining different but complementary data on the same topic. "This design is used when a researcher wants to directly compare and contrast quantitative statistical results with qualitative findings or to validate findings" (p. 62). Design for this case study was the explanatory design of mixed methods research. Initially quantitative demographics were collected followed by qualitative follow-up questionnaires. All information was collected online.

Personal Lens - Pre-existing Assumptions

In qualitative studies, the clarification of the role that the researcher plays is necessary and can be a strategy for validation of the study for when personal perspective is known, they are better able to discern their own voice from the voices of the participants. Different ways to approach research means that different ways in which to view the world can be discovered (Glesne & Peshkin, 1992).Qualitative research may cause the researcher's own worldview to change based on the way that the questions are asked and answered. In this study about academic integrity and online collaborative learning, my own experiences with the subject frame my ability to make sense of the data collected. In my role at the University I am responsible to provide pedagogical support to faculty members in the design of their online courses for distance education (Smith & Ragan, 2005; Xin & Feenberg, 2006). I am a proponent of online collaborative learning

(Driscoll, 2005; Gulati, 2004) and have occasionally witnessed some reluctance on the behalf of the faculty members to incorporate online collaborative learning strategies into the course work. Although the reluctance to incorporate collaborative methods may be grounded in academic integrity issues, there are several other reasons for the reticence of faculty to divide the class into teams or groups for the sake of assignments or assessments. Those concerns are beyond the scope of this study.

In my work as an instructional designer, I have also seen the use of inappropriate collaborative work being assigned and assessed by faculty members. I recognize that the possibility exists that some course work might need to be designed with a more cognitivist approach than one of constructivism (Smith & Ragan, 2005) and thus is not necessarily conducive to a collaborative approach. Driscoll (2005) suggests that the role of the instructor in a cognitivist approach is to "organize information, direct attention, enhance encoding, and retrieval, provide practice opportunities, and help with learners monitor their learning" (p. 417). I also recognize that students who are learning declarative knowledge do not necessarily need to use collaborative learning in order to attain their goals, but also understand that there are some students who benefit from collaborative practice with others.

During the analysis stage of this study, I was asked to attend the University's academic integrity sub-committee to contribute to the remedial course given to students who have been caught plagiarizing their work. I subsequently wrote the curriculum for the face- to -face remedial workshop for students who had been found guilty of low-level plagiarism and inappropriate collaboration. Prior to writing the instruction for the workshop I consulted with the Associate Deans who are responsible for the governance of

the academic integrity policy and met with the Secretariat who was responsible for the interpretation of the policies regarding academic integrity.

I was also asked to contribute to a tip sheet of pedagogical considerations for the anti-plagiarism tool called Turnitin®, and I provided consultation for faculty members when they added the Turnitin® tool to their online distance education courses.

My personal worldview includes humanistic approaches and the belief in education as empowerment. My background is in counseling so I have a tendency to look for avenues to work things through, and to look at the positives in given situations. This outlook frames the way in which I view issues regarding morals and values because I try to suspend judgment and look at the experiences from various perspectives.

Reflexive exploration of personal biases is necessary to develop an awareness of those experiences and how they will emerge in data analysis (Creswell, 2007; Ortlipp, 2008; Stake, 1995). I was continuously reflexive by keeping a research journal and actively critically thinking about the research as it was collected and constructed.

Research Design

This study used an explanatory mixed methods approach to data collection and analysis. Mixed methods research is a "fusion of approaches" (Denscombe, 2008, p. 273) and thus data was collected by online survey, using both open and closed question styles. The initial survey collected demographic data to discover the age group of the participants in order to understand if they were from the Digital Natives or Immigrants group. Creswell and Plano Clark (2007) identify that data collected by open versus closed ended surveys speaks to the data rather than the method of collection. They further state that surveys traditionally used as a quantitative source of data could also be associated with

qualitative data. Both student perspectives and faculty perspectives were analyzed. Creswell and Plano Clark (2007) report that explanatory design has potential threat to the validity of the study if different individuals are selected for the quantitative and qualitative surveys. This threat was minimized by the selection of the same subjects in both surveys: the first survey was used to find out broad information while the second online questionnaire probed answers to potential academic dishonesty scenarios.

Validity

General Validation

Validation in the quantitative paradigm refers to "[h]ow well an empirical indicator and the conceptual definition of the construct that the indicator is supposed to measure 'fit' together" (Neuman, 2006, p. 192). Neuman (2006) suggests that authenticity rather than validity should be considered in qualitative research, while Lincoln and Guba (as cited in Creswell, 2007) suggest that validity in qualitative methodology is viewed as "trustworthiness, credibility, authenticity, dependability, and confirmability" (p. 300). Whittemore, Chase and Mandle (2001) espouse that a distinction needs to be made between criteria and techniques of validity criteria. "*Criteria* [emphasis original] are the standards to be upheld as ideals in qualitative research, whereas the *techniques* are the methods employed to diminish identified validity threats" (Whittemore et al, 2001, p. 528).

Angen (2000) suggests that ethical validation occurs when the researcher is able to listen to all the voices, and to be cognizant of how the work is responsive to the alternative views presented. Ethical validation also needs to be relational to the participants, in that it is not separate from "real life" and is essentially pragmatic (Angen

2000). Madison (as cited in Angen 2000) purports that the value of inquiry is when other researchers who continue to ask additional questions further investigate it.

One of the ways in which validation or authenticity of text-based data is addressed in this study is by the use of verbatim quotes. In order to keep the integrity of participants' expression, no typing or spelling errors where changed.

Data Collection Procedures

In mixed method research, data is collected by using both qualitative and quantitative measures. The collection of this diverse data may provide a better understanding of the research problem (Creswell, 2003; Mertens, 1998). In the first stage of the study, both closed-ended and open-ended questions, with an emphasis on closed-end were collected through online questionnaires (Appendices A and B). Creswell (2003) outlines the explanatory design as using a broad survey to collect data initially then in a second phase to conduct open ended interviews. The initial survey (Appendices A and B) elicited information about the use of Web 2.0 technologies and the demographics of participants. The collection of the demographic data served the purpose of distinguishing those participants who were born before 1983 from those who were born after 1983. This distinction identified those participants who were part of the Digital Natives and those who were Digital Immigrants (Prensky, 2001). People born in 1983 or later would likely have had exposure to computers and the internet technology from the beginning of their life, and would accept this technology as common place.

Stake (1995) further suggests that exploratory surveys can be used for the *etic* issues and that the information gleaned from the surveys can form the *emic* issues or those issues that emerge from the questionnaires. The initial surveys collected broad based

information while the follow-up questionnaires that included scenarios, narrowed the focus by having faculty and students comment on the permissibility of the scenarios.

Instrumentation

This study used two instruments: an online survey (Appendices A and B) and a follow-up questionnaire (Appendix C) that contained various academic integrity scenarios. The survey was constructed using information derived from journal articles and books on survey design (Anderson & Kanuka, 2003; Bech & Kristensen, 2009; Creswell, 2003; Mertens, 1998; Neuman, 2006), academic integrity issues (Leask, 2006; McCabe & Pavela, 2002), and the educational use of Web 2.0 technologies (Gray et al., 2008; Prensky, 2007).

A pilot survey was conducted on a test group of colleagues and students to ensure that the questions were clear. Neuman (2006, p. 276) suggests that the questionnaire be piloted with "a small set of respondents similar to those in the final survey". The pilot survey was also tested for technical errors, security, and anonymity.

The academic integrity scenarios were constructed from the researcher's own experiences as an instructor and course designer and were asked as part of the follow-up questionnaire in order to gain an understanding of the various perspectives of academic integrity and Web 2.0 technologies. Because of different perspectives and wanting to establish common experiences in this *new* medium, scenarios were described that illustrated various situations in which a student or faculty were expected to make a decision about the integrity of the situation. Scenarios are used in computer analysis because they document narrative that "sees usage situations from different perspectives" (Carroll, 1994, 1995 as cited in Carroll, 2000, p. 44). Researchers in the area of software

architecture (Carroll, 2000: Kazman, Abowd & Clements, 1996) also suggest that if scenarios are typical of what happens, they are opportunities to view others' interpretations. Bødker (2000) identifies differences between *open- ended scenarios* which are broad and typically short, and *closed* scenarios which "tend to give more detailed specific answers" (p. 64). Closed scenarios based on the researcher's own experiences were used in this study in conjunction with opportunities for participants to elaborate on the rationale for choosing a specific answer.

Recruitment

Faculty participants**.** A recruitment email (Appendix D) was sent out in January 2009 to the faculty who were teaching a course during the upcoming Winter term, soliciting their participation in the study and providing them with instructions for access to the survey. Faculty participants where solicited from the distance education instructor roster. All were undergraduate instructors who may or may not have been also involved in on-campus and graduate education at the time of recruitment. A second reminder email was sent to the same set of instructors three weeks later, asking for participation. Three weeks after the second notice was sent, a University staff member mentioned this study to a number of potential participants informing them about the research and the final members of the study were found. From a pool of 76, 10 faculty members completed the survey and five agreed to further interviews. Participants were presented a choice for the second phase—face-to-face or telephone interviews, or an online questionnaire. All opted for the online questionnaire.

Low response rates in surveys regardless of the mode are a source of issue for researchers. Couper and Miller (2008, p. 833) address this concern, reporting that "the

hard business of identifying actual nonresponse bias in Web surveys is in its infancy." Bech and Kristensen (2009) found that when the same two surveys were sent out to participants by post and by web, the web-based survey had significantly lower response rates than the postal one. This study, by Bech and Kristensen, used two modes to convey information about the survey to potential participants and the web-based survey participants were sent out information on how to access the online survey via postal service. The convenience factor noted in online surveys (a couple of clicks away) was not present for their study and may have had a bearing on the response rates, not unlike the experience of the University faculty members who had to close off their email and open up the LMS in order to respond to the survey.

Student participants

The student participants were drawn from a professional development program that is offered completely online to students who are not typically distance education students.

> The Professional Development program … expands on the experiential learning experience of … co-op [undergraduate] students with online courses for academic credit. The courses will provide students with the opportunity to develop skills to improve their employability and their workplace productivity. In addition, these courses will provide opportunities for students to reflect on connections between the workplace, their academic courses and their career path.
>
> (Program Description, 2008)

The invitation for participation posting was available to all students during the course, but only visible on the front page for a period of three weeks. No reminder

postings were sent. The recruitment announcement (Appendix E) was posted to a total of 938 undergraduate students with 69 students returning the surveys and 6 participants agreeing to be interviewed.

Procedures common to both sets of participants. Both faculty and student questionnaires were placed into a *community group* in the LMS. The community group is a term used by the LMS makers and is not designated as a course. It is not known if the students or faculty had prior experience with the community group. The letter of explanation describing the study was located visually beside the survey folder, so that participants were made aware of the implications of their participation. The email invitation sent to potential faculty participants included information about the study as well as instructions of how to access the online survey. Once the participant completed the survey, they were asked if they would agree to an interview. If in agreement, they left their contact information in a text box. As informed consent can be challenging to secure in web-based surveys (Kanuka & Anderson, 2007) the participants who agreed to the interviews were sent a release form in an email along with the information about the interview. Opportunities for participation in several formats: face-to-face, telephone and online were given, however all participants opted for online interviews, which are subsequently referred to as follow-up questionnaires.

Ethical issues of e-research. Email messages contained information about the questionnaire and directed potential participants to access the survey in the community group section of the LMS. The use of the LMS was deemed more appropriate than commercial software such as Zoomerang® or Advanced Survey®, because the LMS allowed for anonymity and security. Data would be stored on the password protected

Canadian University server thus avoiding both Freedom of Information and Protection of Privacy Act (FIPPA) concerns and lack of participant response due to the FIPPA concerns (gov.on.ca, 2006). When commercial software surveys are used it is usually unknown were the data is kept, what laws are enacted to protect the privacy and anonymity of the respondents and who might have access to the data besides the researcher. The typical practice in the distance education office at this University is to warn students and faculty if they will be using software that collects and stores data on servers other than Canadian servers. Students and faculty can then make decisions about the privacy issue themselves.

It could be argued that server maintenance personal have access to the data that is collected and kept on the University server (Kanuka & Anderson, 2007), but those personnel sign confidentiality agreements when they are hired by the University. The collection of the survey data in the LMS is no different than the collection of the data through postings and emails within the normal functioning of the course and susceptible to relatively known security risks at the University.

Other ethical issues. Two ethic committees were consulted: Athabasca University where the researcher is a student and the University where the researcher is employed. It was important to pass the ethics review for both of these institutions because of the nature of the study: thesis work for the Athabasca University and the fact that the research project was conducted at the other University.

Interviews

At the completion of the online survey, all participants were asked if they would consent to an interview to comment further on issues regarding academic integrity and Web 2.0 technologies. The participants were given the choice of a telephone interview, an

in-person interview or an online interview (follow-up questionnaire) composed of scenarios. All participants who consented chose to participate online. Once consent was given (Appendix F) through email, a link to the follow-up questionnaire was sent.

Data Analysis

Participants

The participants of the study involved students and faculty in undergraduate distance learning at a Canadian University in a fully online way. Because the University is a dual mode university (both on-campus and distance education) student participants may have been involved in face-to-face classes with others currently in the online class. All participants volunteered to participate in the study, and were informed that they may withdraw or refuse to answer a question at any time without penalty.

Ten faculty members responded to the general survey, with five consenting to the interviews. Sixty –nine students responded to the general survey, with nineteen initially consenting to the interviews, but only six who followed up with responses.

Faculty respondents

Participants in this study will be referred to as F1, F2, F3, F4 and F5 to protect their anonymity.

F1 Overview. F1 is a full professor in the University, has been involved in distance education for several years and reports using group work in the courses that have been taught by him. F1 collaborates regularly with colleagues as a result of his job at the University. He reports using social software in the nature of his collaboration with colleagues and has used the LMS discussion forums and Facebook®. F1 believes that

students should learn course materials by collaborating with each other, and has designed group activities for his courses. He is a Digital Immigrant and was born before 1983.

F2 Overview. F2 is a staff member who also teaches courses for distance education at the University. F2 is has collaborated online with colleagues in the nature of the job using wikis. F2 believes that students should collaborate with each other when learning course materials and actively designs group work in which students can collaborate. Although she is a Digital Immigrant, she was born only a couple of years before 1983.

F3 Overview. F3 is an adjunct professor at the University, who has taught distance education courses for about three years. F3 has not used group work in the courses she has taught and does not want her students to learn course material by collaborating with each other. F3 has used many different social software applications in the execution of the duties associated with being an adjunct professor. Those applications were: wiki, discussion forum in the LMS, text messaging, instant messaging, Facebook® and Skype®. She is a Digital Immigrant and was born before 1983.

F4 Overview. F4 is an adjunct professor also at the University. She has taught the distance education course numerous times, and the same course has been offered as an on-campus course as well. Although she has used group work in the courses that she has taught at the University, she doesn't want her students to learn course material by collaborating with each other. She has not used any social software applications, but has collaborated online with colleagues in the nature of her job at the University. She is a Digital Immigrant and was born before 1983.

F5 Overview. F5 is also an adjunct professor at this Canadian University. She teaches in two departments and supervises a distance education course. She has used group work in her courses, and wants her students to learn course materials collaboratively. She has never had a social software account and has not collaborated with colleagues online in the execution of her job. She is a Digital Immigrant.

Student respondents

Student participants in this study will be referred to as S1, S2, S3, S4, S5 and S6 to protect their anonymity.

S1 Overview. S1 is a Digital Immigrant, born before 1983, and learned about academic integrity before coming to this University. She has been part of a group for an assignment before and enjoys working with others in groups. She has had a social software account and has often collaborated with others online in the course of her schoolwork. She has used the following social software for collaboration on assignments: blogs, discussion forums in the LMS, text messaging, instant messaging, and Facebook®. She does not use Web 2.0 technologies differently when not in school. She believes that collaborating online is different than collaborating face-to-face because "you cannot expand on information online and you are not sure that someone has read the information the way it is intended".

S2 Overview. S2 is a Digital Native who learned about academic integrity before coming to this University. She has been part of a group for an assignment in a course and enjoys working with others. She has had a social software account and has collaborated with others in her class online. She has used instant messaging and email as her methods of collaboration online. She does not use Web 2.0 technologies differently when not in

school, but reports using it more for "catching up with people and seeing how they are doing" when not in school. She believes that online collaboration is different than face-to-face collaboration because "[s]ome people cannot gather their thoughts as well in person. On the other hand, some people doesn't like that they can't get the other person (online) to focus. People can get side tracked if they are distracted by other Web 2.0 tools, and work does not get done".

S3 Overview. S3 is a Digital Native who learned about academic integrity before coming to this University. He has been part of a group for assignments but does not enjoy working with others on an assignment. He has had a social software account and has collaborated with others in his class online using instant messaging. He reports that he uses Web 2.0 technologies differently when not in school because he uses it "to talk to friends". He does not think that online collaboration is different from face-to-face collaboration.

S4 Overview. S4 is a Digital Native and learned about academic integrity before coming to this University. He has been part of a group for assignments and enjoys working with others on assignments. He has had a social software account and collaborated with others online using instant messaging. He does not use Web 2.0 technologies differently when he is not in school. He reports that online collaboration is different from face-to-face collaboration by stating:

> When doing a group project, collaborating online is far more effective and efficient since information can be shared much more easily, ie. entire files can be sent via instant message or email. With tools such as instant messaging and video calls, even discussion is possible. Face to face collaboration is good for

preliminary work to decide what task everyone will be assigned, however online collaboration after that is superior, until another meeting is needed.

S5 Overview. S5 is a Digital Native who learned about academic integrity before coming to this Canadian university. He has never been part of a group for an assignment and does not enjoy working with others on assignments. He has not collaborated with others in his class online, but reports using wikis and instant messaging to socialize with his friends. He reports that online collaboration is not different from face-to-face collaboration because "you are still collaborating, collecting ideas and answers from another person/people".

S6 Overview. S6 is a Digital Native who learned about academic integrity before attending this Canadian University. She has been part of a group for course assignments and enjoys working with others on assignments. She has had a social software account like Facebook® and has collaborated online with others in her class using instant messaging. She reportedly does not use Web 2.0 technologies differently when not in school. She does not believe that online collaboration is different from face- to- face collaboration, but did not elaborate as to the reasons.

Analysis of the Questionnaire

The data collected from the initial survey located within the community group in the LMS was analyzed using the software found in the LMS. This software returned the data and sorted the answers grouping them by question and provided descriptive statistics. Descriptive statistics described as "that branch of statistics which involves describing, displaying or arranging data. Pie charts, bar charts, pictograms etc. are all used in descriptive statistics (Porkess, 2005, p.76). Table 1 illustrates the yes - no responses and

the mean. The last question of the survey asked participants if they would consent to being interviewed in addition to the survey.

Table 1: Responses to survey questions

Item	n	Yes	Percentage	No	Percentage
	Undergraduate				
Born 1983 or after	69	67	97.1	2	2.8
Learned AI before	69	66	95.6	3	4.3
Part of a group for assignment	69	54	78.2	15	21.7
Enjoy working with others	69	44	63.7	25	36.2
Social software account	69	67	97.1	2	2.8
Collaborated online	69	59	85.5	10	14.4
Use Web 2.0 differently	68	26	38.2	42	61.7
Collaboration online different	68	47	69.1	21	30.8
	Faculty				
Born before 1983	10	10	100	0	0
Used group work	10	7	70	3	30
Want students to collaborate	10	6	60	4	40
Social software account	10	5	50	5	50
Collaborated online	10	7	70	3	30

Internet surveys, by nature of their delivery can exclude members of the population (Bech & Kristensen, 2009; Dever, Rafferty & Valliant, 2008; Neuman, 2006). Given that the participants were sought from online courses and had access to the learning management system, everyone would have had access to the internet to complete the coursework. Faculty access was different from student access because the student participants were all registered in one course, while the faculty were from multiple courses. The student participants had a single entry point to the survey, while the faculty

had to access the survey from an email that directed them to the survey site. This interruption may have contributed to the low response rate of 13.1% from the faculty, but Kaplowitz, Halock and Levine (2004), cite problems with internet security and the prevalence of unwanted and unsolicited electronic mail as reasons for poor response rates.

Kaplowitz et al. also found that the response rate to web surveys in a population that has web access comparable to surface mail response rates, the difference being that they were comparable only when surface mail notifications were made as well. In this study on academic integrity and the use of Web 2.0 technologies, no surface mail notifications were made to any participants. Shih and Fan (2008) report that web survey modes generally have lower response rates by about 10% than do mail surveys. The email addresses used for the faculty came from the list of contacts that the University had on hand for the term, so the question of multiple email address and non-response was avoided (Neuman, 2006).

Couper and Miller warn that while low response rates may be problematic, web survey research "is in its infancy" (2008, p. 833). The response rate of 13.1% from the faculty could prove problematic in quantitative study design. Morse (as cited in Neuman, 2006, p. 458) suggests however, "[i]n qualitative research, adequacy refers to the amount of data collected, rather than to the number of subjects as in quantitative research." Green (2008) posits that "representativeness and size of sample" along with a "comprehensive presentation of descriptive survey results" found in mixed methods research supports more inferential analysis. It should be noted that the response rate for the end of term web survey for students at this University, collected within the same term, was 14.2%.

Analysis of the Follow-up Questionnaire Data

Content analysis of the follow-up questionnaire data followed the eight steps identified by Tesch (1990) as cited by Creswell (2003 p. 192).

1. Holistically read the document and record ideas as they occur
2. Choose a particular document and search for underlying meaning
3. List all topics, and group ones that are similar
4. Turn the topics into codes , code the transcripts, look for emerging differences
5. Look for descriptive words that may turn into categories. Reduce your categories if necessary and look for relationships
6. Decide on abbreviations of categories and alphabetize the codes
7. Group data according to categories and do preliminary analysis
8. Recode if necessary

The data from the interviews was stripped of identifiers, so that only the responses to the questions remained. The first pass at the transcripts yielded notes and memos and asked broad questions about the data. This holistic view of the data gave suggestions about the themes and codes.

Miles and Huberman (1994) advise that data analysis follow three flows of activity concurrently: data reduction, data display and conclusion drawing/verification. They further suggest that data reduction cannot be separated from the analysis as it is a form of analysis itself. “Data reduction is a form of analysis that sharpens, sorts, focuses, discards, and organizes data in such a way that ‘final’ conclusions can be drawn and

verified" (Miles & Huberman, 1994, p. 11). They also suggest that these classical steps help in the analysis of the data:

- Affixing codes to a set of field notes drawn from observation or interviews
- Noting reflections or other remarks in the margins
- Sorting and sifting through these materials to identify similar phrases, relationships between variables, patterns, themes, distinct differences between subgroups and common sequences
- Isolating these patterns and processes, commonalities and differences, and taking them out to the field in the next wave of data collection
- Gradually elaborating a small set of generalizations that cover the consistencies discerned in the database
- Confronting those generalizations with a formalized body of knowledge in the forms of constructs or theories

Development of Categories and Codes. The initial coding was categorized according to Neuman's (2006) suggestion of coding with five parts: label, definition, flag, qualifications and examples. Table 2 provides a sample of the five-part coding.

Table 2: Neuman's 5 part coding system

Label	Definition	Flag	Qualifications	Example
Blurred lines	make or become unclear or less distinct	clear	expectations for assignment or collaboration is cloudy or unclear	and instructors don't make it clear for each assignment what the expectations are

The initial coding described twenty-four codes with definitions, flags, qualifications and examples. As the analysis deepened, these codes changed and expanded to thirty-three codes. Neuman, suggests that one of the errors of coding is "keeping codes fixed and inflexible" (2006, p. 461). Merriam (1998) declares that the coding and categorization occurs simultaneously as qualitative content analysis looks for insights inherent in the data.

Theme Development. Once the codes and categories had been completed, the data were grouped into themes. Theme development is a result of data analysis through coding and categorization. Weston, Gandell, Beauchamp, McAlpine, Wiseman and Beauchamp (2001) describe the process of conceptualization as "[o]ne begins with the big picture, an overall conception of the phenomenon, moves in to focus on details through coding, and moves out again to see how the details might have changed the way we interpret the larger picture" (p. 397). Bradley, Curry and Devers (2007) describe the development of themes as "general propositions that emerge from diverse and detail-rich experiences of participants and provide recurrent and unifying ideas regarding the subject of inquiry" (p. 1766). Thematic analysis also occurs in the situation where the researcher wants to describe a person, event, phenomenon and culture. This analysis helps the description become clearer and potentially more useful to others (Boyatzis, 1998).

Strategies for Validating Findings

Good research reports on the validity of the findings (Creswell & Plano Clark, 2007; Miles & Huberman, 1994). Although validity differs in quantitative and qualitative research, both approaches "mean that the researcher can draw meaningful inferences from the results…" (Creswell & Plano Clark, 2007, p.133). In this study both the voices of

faculty members and students shaped the narrative. Full descriptions of the perceptions of the participants were given as the themes about academic integrity and online discussions emerge from the data. The demographic data serves to identify the participants as Digital Natives or Digital Immigrants, and to find out the particular usage of the Web 2.0 technologies. Miles & Huberman suggest that "[t]he meanings emerging from the data have to be *tested* for their plausibility, their sturdiness, their 'confirmability'-that is, their *validity*" (1994, p. 11).

Angen (2000, p. 388), citing work by Sandelowski (1996), said, "[i]nterpretive research, because it is not divorced from real-life contexts, is perhaps better situated to inform practice, than most quantitative approaches." Mixed methods allows for the collection of data from both the positivist and interpretivist paradigms and for a pragmatic rationale for the research (Denscombe, 2008).

The methods used to enhance authenticity in this study included:

- the recording of information, questions and concerns in a research journal to check the bias;
- further reflexivity conducted through regular meetings with thesis supervisor
- meetings with other colleagues to provide alternative views of the data and for the consistency of the themes
- review of the literature and University policies with a view to support pragmatic assertions.

In structural corroboration, Eisner (as cited in Creswell, 2007) holds that the researcher seeks “multiple types of data to support or contradict the interpretation” (p. 204), while the use of consensual validation, or the agreement among competent others is the asking of other experts to view the data and to ascertain if the same interpretations can be drawn.

CHAPTER IV

RESULTS AND DISCUSSION

> The technology simply creates a way for people to communicate and share ideas. It is not designed to violate academic integrity, and from my personal experience, it is not used for such purpose either.
>
> (Interview participant S6)

This chapter presents the findings of this study on academic integrity and the use of Web 2.0 technologies from the perspectives of students and faculty. The results and discussion of the questionnaire are described, followed by the results and discussion of the follow-up questionnaires.

Mixed Methods Procedure

Mixed methods research is used when the collection of both quantitative and qualitative data assists in understanding of the research problem (Creswell & Plano Clark, 2007). The explanatory design was implemented for this study. Data was initially collected by the use of a close-ended survey with minimal opened emphasis, followed by follow-up questionnaires that all participants opted to complete online. Quantitative data was collected as a means to gather information on the prevalence of the use of Web 2.0 technologies and to discern which were being used by students and faculty members. Scenario-based open-ended questions collected qualitative data to better understand the perspectives of both students and faculty regarding the use of the Web 2.0 technologies and academic integrity at the University. This explanatory approach to mixed methods (Creswell & Plano Clark, 2007; Denscombe, 2008), is described as a two-phase design

that starts with quantitative data collection followed by qualitative data collection, typically used to describe or explain the quantitative data or to screen potential participants for inclusion in an interview program.

Initially this study was conceived in a way that the first stage survey would be used as a way to screen potential participants for interviews, but all participants in the second stage chose the online option to a follow-up questionnaire option, declining to meet face to face or on the telephone. Because there was a paucity of face-to-face interaction, the ability to ask follow-up questions for clarification was missing in this format. However, the responses derived from the participants were copied directly from their online responses, thus data was *in their own written words* and not transcribed by the researcher.

Questionnaire Results

From a pool of 938 possible student participants, 69 (13.5%) completed the online surveys. From a pool of 76 possible faculty participants, 10 (7.6%) completed the online surveys. Eight of the student questionnaires were started, but not submitted. The LMS did not allow the capture of partially completed questionnaires. One respondent did not answer two questions: *Do you use Web 2.0 technologies differently when not in school, and is online collaboration different from face- to- face collaboration?* One student emailed the researcher to give reasons why she would not take the survey. The typical concern about the bias of internet-based surveys, that only students who have access to the internet would respond (Dever, Rafferty & Valliant, 2008), was minimal, as all students had to access the internet to complete their online course material. Students did

not need to close one program and open another program in order to access the survey, unlike the way in which the faculty accessed the survey.

All of the 10 faculty questionnaires were started and completed. Bech and Kristensen (2009) reporting on the work of McDonald and Adam and Descombe state "[w]eb based surveys have also been claimed to result in lower respondent errors and to increase the completeness of the response" (p. 1).

Although the response rate was low, it was in keeping with other surveys conducted by the distance education department at end of term. Possible explanations for the low response rates include:

- the delivery of the survey, as faculty members needed to link out of their email systems to access the survey
- prospects may have initially wanted to respond but due to the awkwardness of logging in to the LMS, may have become distracted and forgotten about it once they had completed their email duties
- prospects may have had limited familiarity with the Web 2.0 technologies, thus not considered that their contributions would be informative
- prospects may have felt they were too busy to invest the required time, especially for the faculty
- prospects were simply uninterested in responding to the query

The technological concerns would be worthy of further study.

Digital Natives, Digital Immigrants, Digital Tourists and Accents

Digital Natives. Of the students, 97% were born in 1983 or after, making them part of the Net Gen students (sometimes referred to as Millennial or Digital Natives) who

have grown up with technology and do not necessarily see the distinction between on-campus interactivity and online discussions (Kvavik, 2005; Philip, 2007; Prensky, 2001). This same group of respondents, also had a social software account and 85% of the students reported that they had collaborated online with others for an assignment.

Digital Immigrants. Of the faculty, 100% were born before 1983, making them part of the generation known as Digital Immigrants (Prensky, 2001). One faculty member was close in age to the Digital Natives. Social software sites like Facebook® had been used by 20% of the faculty group, while 70% had collaborated with colleagues online and used group work in their courses. Collaboration was identified as an important strategy for learning by 60% of the faculty.

Digital Tourists and Accents. Toledo (2007) described the Digital Immigrants who have successfully used technology but still view technology from a print perspective, as Digital Immigrants who have an accent. The heaviness of the accent depends on the way in which the faculty member "manipulates digital information" (p. 86). The faculty member uses the technology, but may continue to view the results of the technology from a print-based paradigm. Digital tourists are those people who might embrace technology for a while, but then revert to the application of the print-based paradigm.

Table 3 indicates the distribution of Web 2.0 technologies by percentage that faculty reported using to collaborate with colleagues on a work assignment and students used to collaborate on school assignments. These particular Web 2.0 technologies were chosen because they represented the depth and breadth of technologies currently available to both faculty and students.

Table 3: Distribution of Web 2.0 technologies by percentage

Type of Technology	Students n 69	Faculty n 10
Blog	10	10
Discussion forum in LMS	45	70
Facebook®	49	20
Instant messaging	78	30
MySpace®	1	0
Other (email)	12	20
Skype®	14	10
Text messaging (SMS)	46	10
Wiki	11	40

Web 2.0 Technology Usage

It is interesting to note that the majority of students reported that they used instant messaging as a method to communicate with each other on course work and assignments followed by Facebook® and text messaging. Faculty used the discussion forums more frequently, followed by the use of wikis. Faculty and students did not have the same usage patterns and may have a different comprehension of the communication possibilities of the Web 2.0 technologies. Instant messaging allowed students to correspond with each other synchronously in real time. Students commented that one of the drawbacks of communicating online is the asynchronicity of the medium "[f]irstly, online communication does not allow for constant/instant interfacing; problematic for

collaboration because it changes the dynamic of the brainstorming process." Conversely, another student wrote, "[c]ollaboration through instant message is as close as one can get to collaborating in person. Collab. [sic] over Facebook®/twitter/other services is inconvenient and slow." Mabrito (2004) suggests that the use of instant messaging can help students manage projects in the online environment.

Instant messaging is a fast- paced real time communication method while the discussion forums are ones that are asynchronous and could take some time to complete the communication. While both are types of communication technology, one speaks to the immediacy that often accompanies the Digital Natives, while the other may be more reflective of the reflective nature of the faculty members and those who have been described as Digital Immigrants (Prensky, 2001). Jeong (2007) suggests that students like the immediacy that *instant messaging* (IM) provides. If students need a quick answer to a question, they often either IM each other because their classmates may be online at the same time.

Social networking sites like Facebook® allow students to collaborate in order to share personal experiences and construct their knowledge (Horizon Report, as cited in Chou & Chen, 2008). English and Duncan-Howell (2008) found that students in their study used Facebook® as a means to communicate affective discussion like "group reinforcement, encouragement and support" (p. 600). In a recent study by Roblyer, McDaniel, Webb, Herman and Witty (in press) more students than faculty also used Facebook® to communicate and reportedly saw potential for use in education. English and Duncan-Howell (2008) suggest that students more readily use Facebook® because

only one step is required to post something on a *wall*, while posting in a discussion forum required at least three steps.

The faculty identified the use of the discussion forum as their method of communication for collaboration purposes with colleagues. While this method of communication was available for faculty members, it should be noted that typically in the University, course discussion groups are managed within the LMS and used for collaboration with students and faculty not faculty to faculty. It should be noted that the University LMS utilizes discussion forums extensively which may be why faculty also use them but it was not clear how faculty were collaborating with each other in the discussion forum as the rosters are usually tightly controlled with only one instructor given access.

What is somewhat surprising is the contrast use of a wiki 40% of the faculty, and 11% of students, but according to Leslie and Landon (as cited in Ramanau & Geng, 2009) wikis are often described as the most popular Web 2.0 technologies. Berin (as cited in Konieczny, 2007) reports on the advantages of wiki use for faculty in their courses as it makes it easy for instructors to communicate with their students in order to "dispel misconceptions and correct errors made in [face-to-face] class" (n.p.). The University distance education faculty who reported wiki usage are also instructors in face to face classes. According to West and West (2009) wikis are more convenient for collaboration because they replace the need to send documents back and forth via email, where version control becomes problematic. Shih, Tseng and Yang (2008) reported on the use of wikis for rapid prototyping of teaching materials and commented on the simpleness and convenience of the method for collaboration, but a search for studies that counted the

frequency in which faculty members collaborated with each other using Web 2.0 technologies revealed a glaring gap in the literature.

Scenarios

All interview participants presented with four scenarios (Appendix C), were asked if they viewed the scenarios as academically dishonest. Table 4 identifies the scenarios and the perspectives of both faculty and student participants. In all instances, there are mixed perspectives of what is deemed cheating or plagiarism. Ten people believed that the student who had the absent tutor in the first scenario is not cheating if he asks for help from his classmates, but one faculty member believed that the student is cheating if they seek help elsewhere. The second scenario was based on peer review and the use of editing, and there were varying perspectives from both students and faculty.

Table 4. Response to Scenarios

Scenario	Students reporting n 6		Faculty reporting n 5	
	Yes	No	Yes	No
Scenario 1	0	6	1	4
Scenario 2	2	4	2	3
Scenario 3	3	3	4	1
Scenario 4	0	6	1	4

The third scenario consisting of the use of a wiki was evenly split between the students, while four of the faculty thought it was plagiarism and one did not. Ten people also believed that asking for past exam questions or assignments identified in scenario

four is not cheating, but one faculty member thought that it should have been up to the department to share that information if they so desired, and should not have been student initiated.

Follow-up Questionnaire Analysis

Data analysis involves "making sense out of the data…by consolidating, reducing, and interpreting what people have said and what the researcher has seen and read" (Merriam, 1998 p. 178). The follow-up questionnaire data for this study was initially stripped of any identifying information, then was deconstructed into meaningful units, "bits of information" (p. 179) that can be grouped because they have something in common. At the initial analysis of the data, written memos commented on various questions, and responses. The "bits of information" with similar meaning were grouped into codes, each with a unique definition that emerged from the data. An efficient framework for documenting this step by Neuman (2006) that includes five parts to the coding process label, definition, flag, qualifications and examples was used to illustrate the process.

Codes

Initially student data from the follow-up questionnaires were examined and coded. The data rested for several weeks and then was re-coded. The original questions for the interviews were disregarded in order to more closely listen to what the participants were voicing. Continual examination of the codes and the participant responses occurred. "This type of analysis is defined by researchers as comparative (Creswell, 2003, 2007; Merriam, 1998; Stake, 1995) because the data is continuously compared to the codes. Appendix G illustrates the identified codes with definitions, flags, qualifications (as identified by

Neuman, 2006), and examples of coded phrases or sentences. The codes emerged from the data, and consistency of the meanings was confirmed by a variety of dictionary resources.

Categories

A total of 33 codes emerged from the data and were refined by the constant comparative method as the transcripts were analyzed. Categories are a "means of sorting the descriptive data" (Bogdan & Biklen, 1998, p. 171) and a method to understanding the information presented in the interviews. The codes were then grouped into seven categories that emerged from the data. The categories reflect a more macro view of the data, almost as if one is looking at the data from afar. Creswell describes categories as the "larger thoughts presented in the data" (2007, p. 151). Those seven categories listed alphabetically, are *Communication, Governance, Evaluation, Experiences, Passion, Social Context and Structure.* The consistency of meanings of these categories was confirmed by a variety of dictionaries and resources materials.

Communication Category

The communication category reflects the codes of *communication method, mixed messages, blurred lines, convenience and privacy*. The definition of this category, pulled from the data, is the exchange of thoughts, opinions or information. Table 5 displays the frequency of student and faculty comments in the category of *communication*. Overall, students made more comments regarding the notion of communication and Web 2.0 technologies than did the faculty members.

Table 5: Communication			
Category	Code	Student Comment Frequency	Faculty Comment Frequency
Communication	Communication Method	11	0
	Mixed Messages	0	1
	Blurred Lines	0	6
	Convenience	4	1
	Privacy	3	0
Communication	Total	18	8

Student comments indicated that they saw the use of Web 2.0 technologies as just a method of communication, while no faculty member comments were coded regarding the communication medium. One student (S6) commented, "[t]he technology simply creates a way for people to communicate and share ideas." Another student (S4) did not view Web 2.0 technologies as being different from other communication vehicles like face-to-face discussions and remarked, "[t]he internet merely makes it easier, faster and more efficient than having to physically leave your house." Student participant S4 also remarked, "[t]hat a group of students sharing and discussing information on Facebook®/wikis/blogs/discussion boards is the same as these students all meeting up at a library with their laptops talking to one another." This student seems to see the technology as an extension of himself and his method of communication.

The *mixed messages* code refers to information that is conveyed in one way, while the intent of the information may be very different, saying one thing while meaning another. Faculty member (F1) stated "[w]e also failed to understand the mixed messages

we were giving students: you must work in teams, help each other, but don't [sic] help too much because they constitute plagiarizing."

Faculty members were concerned that the lines between acceptable and unacceptable collaboration were *blurred* and that students were frequently confused about what was expected to be collaborative and what was expected to be independent work. One faculty member (F3) commented "so many students tell me that it is not clear what taking information from the web and sharing work means as far as submitting something that is not their own ", while another stated (F2) "[a]nd instructors don't[sic] make it clear for each assignment what the expectations are."

The faculty concerns regarding *convenience* as indicated from the data, had more to do with engagement in activities that are not sanctioned by the University. The one faculty (F2) comment regarding convenience was "[t]echnologies may just make it easier for students to participate in activities that they shouldn't [sic] be." Conversely, students viewed the use of Web 2.0 technologies as a convenient meeting place, similar to meeting at the library or other face-to-face place. Student participant S2 commented "convenient for students because they do not have to use time to meet with friends and can do other things while they are online."

Students were more concerned with *privacy* than were the faculty as there were three comments that were coded privacy from students and one comment regarding privacy from faculty. Student S4 stated "and it is very difficult, and would often be considered intrusive to scan the contents of these things (for example if it were being done via Facebook [®] messages)." Students were concerned about the "crossing of the line", mixing social with educational and the feeling that faculty had no place looking

online in any of the social networking sites for evidence of cheating. One faculty member, who completed the survey but did not want to be interview further, responded to the question about issues about academic integrity and the use of Web 2.0 technologies by stating, "[t]he main problem with the use of social software is the lack of records on one hand and privacy on the other. People in business world and government use such networks for marketing, but not for serious interaction, for which they use email. They use them with clients not participant. I want my students to understand that their education is a serious matter, hence I shy away from technologies that are toys not work tools."

Student S1 commented "[t]hey are too easily accessible to anyone." These students were commenting on the intrusiveness of faculty members should those faculty scan the Facebook® student sites looking for evidence of academic dishonesty. The absence of comments from faculty members might simply be the inexperience with privacy issues within the Web 2.0 technologies, as is evidenced by F5's statement "[a]ll of my experience is with Discussion Boards only..."

Evaluation Category

The evaluation category reflects the codes of *interpretation, originality, fairness and judgment.* The definition of this category, pulled from the data, is to apprise or consider a situation or problem. Table 6 displays the frequency of student and faculty comments in the category of *evaluation*.

Table 6: Evaluation			
Category	Code	Student Comment Frequency	Faculty Comment Frequency
Evaluation	Interpretation	1	3
	Originality	2	2
	Fairness	5	7
	Judgment	2	4
Evaluation	Total	10	16

The frequency of the code *fairness* was used for faculty comments slightly more than for student comments. Fairness refers to how equitable the situation is deemed by others, ensuring that everyone has a fair chance to succeed. F2 commented "[t]here's nothing wrong with asking for additional practice questions from past exams or other sources. If the questions are out in the public (i.e., from exams and assignments returned to students), then they're fair game." S3 stated "[t]here is 0% honesty, and for somebody who actually studies and receives a lower mark because they don't know what to study isn't fair, so if he/she can level the playing field using an electronic medium, then it is fair."

Faculty commented on the code *interpretation*, slightly more often than did students in this area. F2 stated "[d]ifferent instructors interpret the policies differently", while F3 stated "[t]hey need to understand that online collaboration is not about "lightening" the work load." Even though students might use online collaboration, they need to use it in a way that is scholarly or at least includes the learning process and not as a way to expedite a process. This faculty member suggests that the amount of time that someone spends on something is seen as valuable. The one student comment came from

S6 who interpreted peer editing as help and not as plagiarism when they stated, "[e]diting should not be considered plagiarism."

The next code in this category is *judgment*. Judgment refers to a time when someone must make a decision about an incident or situation and act accordingly. F5 stated, "the line is certainly hard to determine...and so for me it would be dependant on how much of the phraseology is used, how freguently [sic]." S1 stated "[i]t is usely [usually] fairly evident that someone does not know the movie exclusively." This student was responding to a scenario where a student was expected to watch a movie and develop a *family dynamic framework* based on the movie. S1 suggested that it would be easy for the instructor to know if the student had not watched the movie himself and would be graded accordingly. In this instance, S1 thought that the faculty had to make a judgment about the student's work, and the student had to make a judgment about the fair use of the wiki.

The frequency of the code *originality* was evenly distributed between the faculty and students. Originality refers to the amount of original thought required in an assignment. Faculty participant F3 commented on a scenario, suggesting that the information found on a wiki did not constitute enough originality on the part of the student when she stated, "[a]s the assignment is not to get the information from a website, but to construct their own." Student participant S4 commented "[h]as he gone through the thought processes required to formulate original answers?"

Experiences Category

The experiences category reflects the codes of broader picture, common practice, comparable, exposure, knowledge gap, moral outrage, naïve, and unconcerned and is the

largest category with the most frequency of codes. The *Experiences* category is defined as "active participation in events or activities leading to the accumulation of knowledge or skill" (American Heritage Dictionary, 2000). Table 7 displays the frequency of student and faculty comments in the category of experiences.

Table 7: Experiences

Category	Code	Student Comment Frequency	Faculty Comment Frequency
Experiences	Unconcerned	4	0
	Moral outrage	1	0
	Knowledge Gap	0	11
	Naive	3	0
	Exposure	3	2
	Common Practice	6	1
	Comparable	14	8
	Broader Picture	0	2
Experiences	Total	31	24

The code of *broader picture* refers to the large societal issue of culture and academic integrity. Two faculty member's comments were coded as *broader picture*. F1 stated "[i]n fact, plagiarism has been an obsession in Western cultures since the eighteenth century, when authorship became identified and limited to an individual author." He went on further to say "[a]t this university, I suspect that we would punish more severely a student who has been caught plagiarizing than one who has been caught drunk and breaking windows."

The code of *common practice* refers to the commonality of an experience, or the typicality of the situation. More student comments were coded as common practice than

were faculty statements. S5 responded to a question about obtaining exam questions by stating "[s]tudying off of old exams is commonplace." S3 suggested that cheating and academic dishonesty is just part of the university experience when he stated, "[t]here is 0% honesty." The one faculty comment that was coded common practice was the statement made by F when she said "[t]here's nothing wrong with asking for additional practice questions from past exams or other sources."

The code of *comparable* refers to the comparison of collaboration methods, either online or face-to-face methods. The students' comments about the comparison were more frequent than the faculty members' statements. One student, S4 commented that "[h]ad the students all met in a library, the same information exchange would have taken place" and "I find that collaborating in person in groups is equal to collaborating with Web 2.0 technologies." S3 commented, "[n]o, the friend is helping the student understand, this is no different then what happens countless times in face-to-face situations." Faculty participant F2 stated, "I think regardless of the media (technology-related or not), the same concerns about academic integrity apply." Another comment made by F2 "I think students just need a basic understanding of academic integrity in general and the related policies, in all contexts, not just in online collaboration" suggests that information about generally related academic integrity issues need to be explored, regardless of the method of collaboration. Faculty participant F1 commented that it did not matter what type of assistance students received, book or in-person, it was the same when they stated, "[w]hat is the difference between getting help from a dictionary (a book) and getting help from a friend (a person)? I fail to see the difference."

The *exposure* code was used to describe the lack of experience that the participant had with what they perceived as distance education. It is highly possible that the only experience with distance education that these students had was the course in which they were currently enrolled. The participants were invited through the use of the learning management system of the course in which they were enrolled, but given that many of the students were likely on-campus students their experiences with online distance education could be limited. Further investigation of online experiences would be warranted. The limited experience was reflected in a statement made by student participant S1 "I have not taken a stats course [online] but asking for assistance is not an offense [sic] unless it is being graded." All the faculty members were seasoned distance education educators who might have also taught on-campus in addition to online teaching. Faculty member F4 commented "[m]y particular distance ed course provides sample questions for the final exam."

Faculty members were most concerned with what was coded as *knowledge gap*. The definition of this code is the understanding of expectations from the University environment is not congruent with the expectations from the student's. These expectations could be related to the Web 2.0 technologies, but they could also be related to the manner in which the student is accustomed to learning. If the student is familiar with group learning, but the expectation is that the assignment must be completed individually then a gap in the expectations exists. F5 stated that "[s]tudents need to understand that if they are using someone else's words or phrases or ideas that they must acknowledge that somehow...." Another faculty member F2 voiced concern about the gap in knowledge regarding expectations between high school and university when she said

"[a]nd the way students are encouraged to learn and work in highschool [sic] is very different than the expectations when they come to university."

One student expressed a statement that was coded *moral outrage*. Moral outrage as it emerged from the data was defined similarly as "an extremely strong reaction of anger, shock, or indignation (Oxford Dictionary of English, 2005). The qualifications for this code were easily discerned by the usage of the capital letters and the intension of the message. When the use of uppercase and lowercase letters are common within the exchange, but the person then writes in upper case to illustrate a point this usually depicts yelling, or at least an emphasis in online communication. S4 commented "[u]nless it's people posting answers/assignments and other people taking those assignments/answers, it is most likely NOT cheating" and "I personally, in all my 14 years of schooling have NEVER encountered things I would even close to consider academic offenses [sic] taking place on such public web technologies." This student appeared to be offended that collaboration could be seen as cheating.

Naïve was a code defined as lack of experiences or understanding of either how the technology actually worked or the lack of experiences or understanding of what might be construed as academic dishonesty. Only student comments were coded as naïve, as no faculty comments indicated that there was a lack of understanding about the technology or academic dishonesty. It was expected that faculty would have an understanding about academic integrity, but not necessarily an understanding of the technology. A student participant S4 expressed a viewpoint about cheating within an assignment and thought that email was completely untraceable when he said "[i]f they truly wanted to get someone else's work they would contact a friend who already has done the assignment

and ask them to email it to them, which is comepletely [sic] untraceable." It is interesting to note that this student thought that email was completely private, and that the faculty member who would have received two assignments albeit in different terms, would be none the wiser, simply because of the communication method of email. Later in the interview the student participant S4 again stated that he believed that the public technologies were not used for cheating, but that personal email might be used when he stated "encountered things I would even close to consider academic offenses [sic] taking place on such public web technologies; only using things such as personal email."

Students reported being the most *unconcerned* about the use of the Web 2.0 technologies, while faculty members thought that there were issues with the technologies. S6 stated "I don't there are any concerns or issues. The technology simply creates a way for people to communicate and share ideas. It is not designed to violate academic integrity, and from my personal experience, it is not used for such purpose either."

Governance Category

The *governance* category reflects the idea of vigilance and laws regarding academic integrity; the necessity of being constantly alert to the possibility of infractions regarding academic integrity. This category comprises the codes of *cheating, monitoring, policing, policy and suspicion*. As a category, the distribution of comments and codes were fairly even, but Faculty reported on the category slightly more often as is evidenced by Table 8.

Table 8: Governance

Category	Code	Student Comment Frequency	Faculty Comment Frequency
Governance	Cheating	4	7
	Monitoring	2	1
	Policing	5	5
	Policy	0	5
	Suspicion	4	1
	Transparency	0	2
Governance	Total	15	21

Faculty identified *cheating* slightly more frequently than students. Faculty participant F1 seemed to think that using Web 2.0 technologies in a way that did not benefit other students was deemed cheating when he commented "[i]f the student organizing the wiki is the only one benefiting then it is cheating." Faculty participant F5 when commenting on a specific scenario, emphatically stated "if the student just takes the answers that the friend is submitting and uses them then yes it is cheating."

Students were slightly more concerned about *monitoring* student academic dishonesty than were faculty members. Student S4 stated "whereas monitoring them for students copying off one another etc. can be difficult." This same student S4 also stated "this however would be very difficult to catch, if not impossible." One student S2 commented that students should be self monitoring and not leaving it up to others to monitor the integrity when she said "I think that professors have the right to be suspicious

about student collaboration and it is up to students to ensure they are not cheating or plagiarizing."

The code *policing* was used to identify comments that referred to the idea of keeping in order, or actively maintaining vigilance. The frequency of this code was evenly distributed between students and faculty members. Both faculty members and students were concerned with the tools and consequences for academic dishonesty. F3 stated, "[a]s instructors we need better tools and clearer consequences " while S4 said, "[o]f course this could easily be caught by any plagiarism software, ie. Turn It In etc.[sic]"

Faculty members were concerned with *policy* statements or the perceived lack of policy statements made by the institution as is evidenced by the five coded comments. One faculty member F5 stated, "but these are complex issues and the tools available for online collaboration are so numerous and easily used that guidelines need to be established within different disciplines, according to overriding principles, I believe." Students did not refer to policy in any of their comments. One faculty member F2 commented on what he perceived to be truth by stating "and students don't read them anyways" when referring to the policies that are written by the institution.

The next code of this category, *suspicion* refers to the condition where situations might not be taken at face value and there is a need to look deeper than the surface. Students made more comments about suspicion than did faculty members, and thought that faculty members should be suspicious of students. S2 commented "I think faculty have all the reason to be suspicious about students' academic integrity", and "I think professors have the right to be suspicious about student collaboration."

The final code of the category, *transparency* refers to being "above board", letting others know what is going on, or being open and frank about an issue or a process. F1 when asked about issues in online learning stated "[o]penness, explicitness, seeking permission, equality of access. Students who create collaboration opportunities can truly enrich the learning experience, but they must be frank and open about what they are doing." This faculty member, who taught in the arts, did not mind if her students supported each other and collaborated, but the students needed to be forthright about their cooperation.

Passion Category

The passion category reflects the codes of *consequences, sanctioned, unsanctioned,* and *values scholarship.* The *passion* category is defined as strong feelings about academic integrity. Table 9 displays the frequency of student and faculty comments in the category of *passion.*

Table 9: Passion

Category	Code	Student Comment Frequency	Faculty Comment Frequency
Passion	Consequences	0	3
	Sanctioned	3	7
	Unsanctioned	5	13
	Values Scholarship	14	1
Passion	Total	22	24

The next code for this category is *consequences.* A *consequence is* defined as regarding the result of an action or actions that might be deemed academic dishonesty. Faculty comments were coded as consequences, but no comments from students were

similarly coded. Faculty participant F1 viewed the consequences of plagiarism possibly as extreme when he stated "[a]t this University, I suspect that we would punish more severely a student who has been caught plagiarizing than one who has been caught drunk and breaking windows."

The code of *sanctioned* refers to the type of academic activity that is sanctioned by the instructor or by the institution. More faculty comments were coded *sanctioned* than were student comments. A faculty participant F2 in response to a scenario about peer review commented, "[t]he student should include acknowledgments of the other students that edited their work, especially since phraseology supplied by another student was used. With the acknowledgment included, this would be acceptable (as long as the assistance from the other students wasn't more involved)." What is not understood from this previous statement is *what more involved assistance from the other students*? Faculty participant F3 also believed that peer review was not plagiarism if certain criteria were present when she stated, " [u]nless the student uses directly quoted materials and ideas completely not thier [sic] own from their friends without referencing them, they are not committing plagiarism."

Student participant S2 responding to the scenario about peer review recognized that the material should be cited, but went further when she suggested that the permission of the friend was required. Her comment was "[i]f the student really likes his/her friends' idea, he/she can ask the friends' permission to use the idea and then cite the friend." Student participant S5 responded to a different scenario about the use of the wiki by stating "[b]y involving others, he probably learned about the film and helped others learn

about the concepts in the film more than just by doing the work. He did not copy other's work, nor did he use other's answers and kall [sic] them his own."

The code of *unsanctioned* was used to describe situations where they type of collaboration or use of academic material was questionable. More faculty comments were deemed *unsanctioned* than were student comments. Faculty participant F4 responded to the question about what are this issues with academic integrity and Web 2.0 technologies by saying "the fact that a collaborative study group discussion can too easily result in work submitted as an individual effort when, in fact, it should be submitted and graded as a 'group' project." Faculty participant F5 stated similar concerns about collaboration when she responded to the same question by stating, "[f]rom my perspective, taking the material generated in group discussions and using it in individual essay submissions."

Student participant S 6 commenting on the use of a wiki to construct ideas about an assignment deemed the contributions to be not permissible and the comment was coded as *unsanctioned*. She wrote "[t]hose are other people's ideas." It seems that S6 fails to recognize that other people's ideas could be used, but that they would need to be cited properly.

The code of *values scholarship* is defined as recognizing that the mastery of knowledge usually associated with institutions of higher learning is meaningful and has worth. Many more student comments were coded as *values scholarship* than were faculty comments. Student comments centered on collaboration as a learning method, but recognized and valued that individual contributions were necessary as well. Student participant S2 stated,

> I think that when collaborating with other students, it is important that students also do their own individual research and work. Sometimes I find getting together in a group to discuss ideas when I am stuck on a topic really helps obtain different perspectives of the topic. Again, it is important that each student does not only use this resource to get answers, but to better understand a topic or question.

In response to the question about using someone to help with the statistics question, student participant S4 stated "[a]s long as the student was not only asking for answers to the question, and this 'walk' through wasn't done for every question."

Faculty participant F4 also considered that collaborative work needed to be transparent, and not be considered as individual when she stated, "[t]hat a collaborative effort needs to be identified as such . . . not passed off as individual effort."

Social Context Category

The social context category reflects the codes of *friends*, *help* and *problem solving*. The definition of this category is collaboration is seen as being helpful or assisting others as is friendship or camaraderie.

Table 10: Social Context

Category	Code	Student Comment Frequency	Faculty Comment Frequency
Social Context	Help	1	3
	Friends	2	0
	Problem Solving	2	0
Social Context	Total	5	3

There were two student comments that were coded as *friends*. The definition of friends relates to the camaraderie that exists within the school setting, and the desire to assist a friend in their learning experience. Student participant S3 commented on the scenario where it was questioned if peer review was cheating by saying, "maybe technically speaking it is, but the fact is that this happens all the time, including in face to face situations and friends are just trying to help friends, and realistically are you actually going to cite a friends [sic] suggestion?"

The code *help* refers to the idea of helping someone to complete an assignment or to understand a concept that they were unable to comprehend. Faculty comments were coded help slightly more frequently than were student comments. In response to the scenario where the tutor was unavailable to assist the student, faculty participant F4 commented "[u]nfortunately, the problem here lies with a tutor who is not available. The student cannot be penalized, even if there might be reasonable grounds, because s/he is required to compensate for a tutor who should be doing his/her job properly and clearly isn't. The one comment by student participant S4 coded as help referred to the same scenario where the tutor was unavailable: "[e]specially since the student has asked the tutor multiple times for help and has received none, this is a reasonable next option."

The final code in this category *problem solving* is defined as finding solutions to situations. Two student comments were coded as *problem solving*. Student participant S4 commented, "[i]f the student were to go and talk to his friend face-to-face, would it still be a cheating issue? Or would that student simply be considered enterprising? Just because the medium of contact is an online video call, it does not make asking a friend for help, cheating." This same student participant also commented, "[e]ssentially, it is

cheating because he stole the ideas for the assignment; not because he shared them. After all they were available to any student who was smart enough to do a google [sic] search anyways."

Structure Category

The *structure* category consisted of *pedagogy, knowledge construction* and *schema* codes and deals with the instructional design of course work. It is of interest to note that students' comments were more frequently coded as pedagogy than were faculty comments.

The code of *knowledge construction* refers to looking at the ways in which knowledge is built, including deeper learning and methods. More student comments than faculty comments were coded as *knowledge construction*. Student participant S2 commented "[s]ometimes I find getting together in a group to discuss ideas when I am stuck on a topic really helps obtain different perspectives of the topic. Student participant S1 commenting on peer review of assignments has this to say, "I write the draft and they suggest better ways of wording things." Some faculty members, F1 also commented on group work in a positive way by stating, "[f]or my part, collaboration in building a rich and positive learning environment is more important than the plagiarism issues." Faculty participant F1 continued to comment on a group learning milieu by stating "[i]f all students [s]hare ideas, and student no. 1 is seen as someone who fostered discussion, then the student's move is enriching everyone's experience." F5 stated that "[i]f the student uses the examples to then figure out the assignment questions and answers, that [sic] is not really cheating- if the student just takes the answers that the friend is submitting and

uses them then yes it is cheating." She was responding to a question about students helping each other in a statistics course.

Table 11: Structure

Category	Code	Student Comment Frequency	Faculty Comment Frequency
Structure	Knowledge - Construction	16	8
	Pedagogy	8	6
	Schema	5	0
Structure	Total	29	14

The *pedagogy* code refers to the instructional design of the course materials or delivery of the materials. S1 stated, "[a]s there is little interaction between professor and student in online courses it is difficult to brain storm or get effective feedback," when she was discussing the manner in which she experienced distance education courses. Student participant S1 also commented "you take the risk of not understanding the material and getting average marks" when she was talking about not getting enough information about the assignments and examinations.

Faculty comments that were coded as *pedagogy* indicated concerns about the continuous redevelopment of exam questions and the release of old exams so that students could feel confident about their study focus. F1 stated, "[i]t may not make the instructor happy, but exam questions should be constantly redevelopped [sic] by instructors." A

different faculty member, F5 commented on the same issue, but took a different perspective by saying "[f]or me, yes- although some departments do give out sample exams- that decision must come from the supervisors of the course/department- not from other students- that's where the issue is for me."

The final code in this category is *schema*. This code refers to the framework or style of questioning in which an assessment or exam will be delivered. No faculty comments were coded *schema*, but five student comments were coded *schema*. Student participant S1, when commenting on the various styles of testing stated, "[e]ach one tests differently and it is important to know. Some are looking for applied knowledge and others straight definitions." S2 stated that "[s]ince they [students] are only asking for questions (provided that the questions are not recycled), they only want more practice, or get an idea of what questions the professor may ask." Students who do not have test taking experience are often not confident in their abilities and wish to have suggestions and practice tests to increase their confidence level. When instructors do not offer this type of assistance to students then some students seek the information themselves from other students.

Themes

Miles and Huberman (1994) discuss the third level of analysis, the declaration of themes as less observable information and as more abstract. They state that "…no longer just dealing with observables, but also with unobservables and are connecting the two with successive layers of inferential glue" (p. 261). Shkedi (2005) describes the theme process as a procedure of "mapping categorization" in order to produce a storyline or way of explaining the data in "coherent narrative of the phenomenon under examination" (p.

129). Bogdan and Biklen (1998) suggest that a combination of techniques for the distillation of themes may be best for the novice researcher.

The techniques utilized for the theme construction in this study included: several thorough readings of the transcripts to ascertain obvious themes, comparison of the paragraphs and interviews across participants and word repetitions and code frequencies, and the construction of a concept/mind map to illustrate the categories and the codes. Concept maps can help researchers focus on meaning (Daley, 2004) and provide visual relationships between concepts (Wheeldon, 2010). The central theme that emerged from the data was the theme of cultural dissonance or a lack of agreement or harmony.

Cultural Dissonance

Culture is defined as the set of shared attitudes, values, goals, and practices that characterizes an institution or organization and the set of values, conventions or social practices associated with a field, activity or societal characteristic" (Merriam Webster, 2009). This broader interpretation of culture does not encompass ethnicity nor does the study consider ethnicity as part of the data collection. Dissonance is defined as an inconsistence or disagreement (Merriam Webster, 2009). Cultural dissonance refers to the discord or incongruency of the academic environment as demonstrated through these themes: institutional culture, faculty culture, student culture and learning culture.

Discussion

Institutional culture

The institutional culture consists of the policies and guidelines that shape the expectations and rules that in turn governs the behaviours of the educational participants. A comparison of two excerpts of academic integrity policies follows.

> University B: AND WHEREAS the University recognizes that students often have to use the ideas of others as expressed in written, published, or unpublished work in the preparation of essays, papers, reports, theses, and publications. However, the University expects that both the data and ideas obtained from any and all published or unpublished material will be properly acknowledged and sources disclosed. Failure to follow this practice constitutes plagiarism (University B policy on academic integrity).
>
> University A: Academic integrity is a commitment to five basic values: honesty, trust, fairness, respect and responsibility. It applies to all academic endeavours-teaching, learning and scholarship, and applies to a range of academic activities, from conduct in research to the writing of co-op work term reports. Students are expected to know what constitutes academic integrity, to avoid committing offences, and to take responsibility for their actions. (University A policy on academic integrity)

The University B statement suggests that there is some clarity with what is permissible and what is not, while the University A statement seems to leave interpretation open to the individual or individuals of that particular university. While the University B makes the expectations clear for students, the atmosphere created could be one where feel discomfort sharing information with each other. University A describes the basic values inherent in integrity, but it does not identify as specifically what is and is not allowed. The looseness of the University A policy of both hinders and aids in the execution of the policy because of the openness of interpretation. Faculty and students are

expected to interpret the policy, but do not always interpret it in the same way. Confusion and failure to comply with expectations abound.

The theme of institutional culture is further identified by the category *of governance* as found in the data. *Governance* includes the codes of *cheating, monitoring, policing, policy, suspicion* and *transparency*. Culture is often made up of little unknown rules and expectations. Those rules and expectations are usually learned from elders (those who have more experience) who make up the culture and pass down cultural mores to those who have less experience (Myers, 2007). Students may not have the benefit of more experienced students sharing information about academic integrity in a formalized manner. Some may share this knowledge informally as is often the case with norms of cultures.

Academic Violations. Typically, universities in Canada provide a public document that identifies the types and amount of infractions committed during an academic year. There is no consistent template for the report that contains the information about the violations, and information can be conveyed quantifiably or qualifiably. In one such document at the University studied, there were two statements that embody the environment of governance and possible confusion.

The first statement explains that the student in question was not intending to cheat, but regardless of the intent was indeed found guilty of cheating. The scenario in question involved several postings to an electronic class discussion board made by another student in the Undergraduate course were identical to postings made by the student's team-mates. In discussion with the course instructor, and subsequently the Associate Dean, the student acknowledged that he/she had provided his/her team-mates material in this fashion.

“Nevertheless, it is clear that regardless of what his/her intent may or may not have been, the student facilitated the other students' cheating. The fact that he/she did so repeatedly indicates that the student must have been aware of the use the other students were making of his/her material” (University A- Summary of Discipline Cases 2006-07).

Interestingly, it appears as if the collaboration is at fault and not the fact that proper citation rules were not followed. If this is an accurate summation, then the institutional culture seems to be expressing that collaboration is not appropriate in the learning situation.

The second statement indicating that collaboration was inappropriate was again identified as “unknown as cheating” by the students. These students were identified as second year students. The scenario involved with the second statement contained an assignment that was distributed during a lecture period. Students were permitted to work together but were instructed that their written work was to be independent. When marking the assignments, the instructor found evidence of excessive collaboration. In meetings with the instructor, the students both acknowledged their role in the academic offence. They insisted that they did not know what they were doing was cheating (University A - Summary of Discipline Cases 2006-07). What is unknown is the amount of explanation that was given during the lecture and the intent behind the collaborative assignment. Several instances of this type of unauthorized collaboration are given in the summary of offences suggesting that the same class had several incidents of inappropriate collaboration.

In another instance of inappropriate collaboration the statement about the infraction indicated that the student “struggled with the assignment”, suggesting that the

student may have copied because of competition or because a passing grade was important to the student. In this third example, it seems likely that had the student cited the source properly, then it would not have been an issue. The statement reads "a[A] teaching team identified similarities in an assignment for two students. Student A was Undergraduate 1 given a soft copy of Student B's assignment with instructions not to copy and to acknowledge the help. Student A struggled with the assignment and used Student B's material without acknowledgement (University A- Summary of Discipline Cases 2006-07).

Violation Dissonance. One of the faculty participants expressed some difficulty aligning with the stated policy on academic integrity and his own thoughts on academic integrity when he stated "[a]t this university, I suspect that we would punish more severely a student who has been caught plagiarizing than one who has been caught drunk and breaking windows in the SLC [student life centre]" (F1). This faculty participant hired by the University to uphold the policies and procedures of the University had originally agreed to do so by the acknowledgement of the employment letter. Conversely, students agree to uphold the policies and procedures of the University when they respond to the letter of acceptance from the University.

Further evidence of this conflict is exhibited by faculty when they are unable to agree on a few citation styles, within the department. Many students are confused about the different citation styles, and when they initially cite believe that there is the only way to cite. In a recent conversation with an official in University A's Office of Academic Integrity, it was discovered that trying to get the faculties to agree on a few citation styles was pointless. Although faculty see it as important for students, each department believes

that the citation style used within their discipline is critical to the advancement of their area of expertise, and do not want to change citation styles to fit a common one. When this practice is questioned, the oft repeated phrase is given, “it is the XXX way”, referring to the uniqueness of the particular practice at the University. These practices and processes lead to the culture of the University.

Ethical Foundation. To further pursue academic integrity at the University, the website instituted by the office of academic integrity states the rationale for having an ethical foundation. Ethical foundation has a high priority at this institution as evidenced by the comments by an associate dean, “ Every time a student walks away from the convocation hall with an honestly earned degree in hand, another brick is added to the foundation of the university’s reputation as a teaching and research institution” (University A- Document).

Some faculty members perceive that the institution does not follow through on infractions of the academic integrity policy, which can demotivate faculty. F2 stated, “or don’t proceed with cases when they should, which doesn’t help the situation.” F3 wanted “protocols for addressing cheating, to monitor and track online collaborations.” F3 also stated “as instructors we need better tools and clearer consequences.”

Print vs. Online. The university policies at University A are not necessarily inclusive of the online medium. When the Office of Academic Integrity posted information about Turnitin® anti-plagiarism software being available for general use within the University, the office presented information that needed to be posted along with the instructions for use. However, the manner in which they posted the information did not engender the sensitivities of the online medium because the information was given

in capital letters. The use of capital letters means that someone is shouting at you. The message was inclusive, but the manner in which it was stated was not congruent. This incongruity leads to confusion about the academic culture. In one way the policy includes online learning, but then "shouts" at students when they read about that inclusivity.

Faculty Culture

The categories that have informed this theme are *passion* and *evaluation*. The *passion* category includes the codes of *competitive, consequences, sanctioned, unsanctioned and values scholarship.* The *evaluation* category includes the codes of *fairness, interpretation, judgment and originality.*

Faculty are frequently called upon to interpret the policies of the University in ways that reflect their own style of teaching and acceptance of assignments. Some of the faculty interpretations of the policy are congruent with the institution's interpretations, while others are not. In response to the study scenarios some faculty responded by saying that the scenario contravened the policy while other faculty said the scenario did not.

Philosophy of Teaching. Faculty are called upon to embrace learning and to practice teaching. Some recognize that students may be concerned with competitiveness and not able to look at learning for the sake of learning. The culture of grading on the curve may be in conflict with the philosophy of the faculty member who is immersed in research and teaching for the sake of learning. The nature of competition may not fit the learning philosophy of the faculty. In a study by Davy, Kincaid, Smith and Trawick (2007) those students who might be extrinsically motivated to achieve high grades may be less likely to learn and understand the content for the sake of learning only. F1 commenting on a collaborative experience and the conflict between collaboration and

competitiveness stated “to share experience, and this in the face of a highly competitive and individualistic culture.”

The faculty member’s discipline may also be at odds with the culture of the University. F3 commented “I have seen the exact same usage of discipline specific language in more than one paper and suspected collaboration on a paper that was not supposed to be a group effort.” The culture of the discipline may be quite competitive, yet the university identifies “[c]ommunication, inquiry and the free exchange of ideas are fundamental to a university education, and require an environment of tolerance and respect” (University A- Academic Integrity policy). This policy statement could be interpreted to mean that students should be able to share information with each other.

Technology as Toy. Some faculty members were more aware of the various methods in which students could use to communicate or research their work for essays. Some faculty did not appreciate the functionality of the Web 2.0 technologies and thought that the technology was frivolous. One faculty participant who completed the initial survey but did not complete the scenarios stated “The main problem with the use of social software is the lack of records on one hand and privacy on the other. People in business world and government use such networks for marketing, but not for serious interaction, for which they use email. They use them with clients not participant. I want my students to understand that their education is a serious matter, hence I shy away from technologies that are toys not work tools.”

The identification of the technology as “toys” may suggest that there is a “*cultural lag* – a gap between the technical development of a society and its moral and legal institutions” (Ogburn as cited in Kendall, Lothian Murray & Linden, 2004, p. 81).

Kendall et al., also suggested that all sections of a culture do not evolve at the same time, but when changes to the material culture are made, they must be followed with changes in the nonmaterial culture. Failure to make changes is linked to "social conflict and societal problems" (2004, p. 81).

Expectations versus Experience: The expectations and experiences of the faculty member when they were a student might be very different than the experiences of the students within their classes, but their expectations for their classes reflect the academic culture that was prevalent during the faculty member's education. In many instances the expectations and experiences of faculty members and the students within their classes differed. Each person views the expectations from their own experiences and framework, but may believe that they are operating from the same set of norms and culture. F5 said that "just because it is on the internet, or your friend's or fellow student's wiki posting, does not mean it is necessarily 'free'." F2 recognizes that "[d]ifferent instructors interpret the policies differently or don't proceed with cases when the[y] should, which does not help the situation."

In other instances, the expectations of the faculty and students were more aligned. F2 stated, "I think regardless of the media (technology-related or not), the same concerns about academic integrity apply." F2 is the faculty member who was closest in age to the Digital Natives.

Some faculty members may be in favour of collaboration, but recognize that some forms of cooperation are not acceptable. In response to one of the scenarios regarding the request for previous exam or assignment questions, one faculty thought that the students should collaborate, but that the decision for practice questions and sample exams should

be made at the department level, not the student level. F5 stated, "[f]or me, yes- although some departments do give out sample exams- that decision must come from the supervisors of the course/department- not from other students- that's where the issue is for me."

Even though students might use online collaboration, they need to use it in a way that is scholarly or at least includes the learning process and not as a way to expedite the process. One faculty member thought that the amount of time that students spend on something is seen as valuable: scholarship equals learning plus time. F3 stated "they [students] need to understand that online collaboration is not about lightening the work load."

Student Culture

The categories that inform this theme are *social context* and *experience*. The *social context* category includes the codes of: *friends, help* and *problem solving*. The *experience* category includes the codes of: *broader picture, common practice, comparable, exposure, knowledge gap, moral outrage, naïve* and *unconcerned.*

Some students believe that there is a difference between the knowledge gleaned from formal sources like books and academics and informal sources like their friends. S3 commented "and friends are just trying to help friends", and "and realistically are you going to cite a friend's suggestion?" In this student's opinion, friends do not have the authority that the formal sources do and thus do not need to be cited. The idea of academic ownership may be very different for the students versus the faculty members or the institution.

Creative Problem Solving Capabilities. Some students believe that it is more valuable to creatively problem solve than it is adhere to the principals of academic integrity. S4 stated "after all it was available to any student who was smart enough to do a google [sic] search anyways" and "or would that student simply be considered enterprising?" This type of value underscores the need for instructors to clarify for students how both values problem solving and academic integrity need to be integrated and that one does not have an advantage over the other.

Levelling Effect. In addition to the value of problem solving, students also seemed to value technology for the levelling effect that it provides for communication. S4 stated, "[t]hat a group of students sharing and discussing information on Facebook[®] /wikis/blogs/discussion boards is the same as these students all meeting up at a library." S4 commented, "[h]ad the students all met in a library, the same information exchange would have taken place." S4 also stated "[i]f the student were to go and talk to his friend face-to-face, would it still be a cheating issue?" One student provided this additional information on his initial survey when asked about using Web 2.0 technologies for group work, "[c]ollaborating online is similar to collaborating face-to-face because the purpose of communication is exactly the same - discussion of each other's answers and thoughts - through different method. Talking to each other online or face-to-face serves the same purpose."

Value System. Students, consent to the values of the University by the fact that they decide to attend a certain university, but then weigh those values against their own beliefs. This dichotomy is evidenced by the many students who are found guilty of academic integrity infractions. What appears inconclusive is the amount of knowledge

that the student possesses about the infraction and whether or not they knew they were breaking the code by their behaviour. This disassociation between the value system and the behaviour is evidenced by inconsistency of responses to the interview scenarios. Some students thought the scenarios were demonstrations of academic dishonesty, while other students thought not.

Further illustration of the detachment between behaviour and beliefs is evidence by the responses of the students to the question of whether or not they had learned about academic integrity before attending University. All students responded by stating that they had heard about it, but faculty members report that there appears to be a knowledge gap between what is allowed and what is not allowed when it comes to academic integrity. F2 commented "[t]hey [students] go from completing a majority of their work in a collaborative way to the expectation of submitting individual assignments and can't make the transition." F5 stated "[s]tudents need to understand that if they are using someone else's words or phrases or ideas they must acknowledge that somehow."

Learning Culture

The categories that inform the learning culture theme are *structure* and *communication*. The *structure* category includes the codes of *knowledge construction, pedagogy and schema*. The *communication* category includes the codes of *blurred lines, communication method, convenience, mixed messages and privacy*.

Enrichment. Students identified that one of the ways in which they construct their knowledge within the learning environment was by the engagement of discussion. S2 stated, "[a]gain, it is important that each student does not only use this resource to get answers, but to better understand a topic or question." S5 when commenting on the use of

a wiki said “[b]y involving others, he probably learned about the film and helped others learn about the concepts in the film more than just by doing the work.” S5 suggested that the student who engaged the learning task, through the use of the technology was able to construct not only his own understanding of the material, but also the understanding of the materials by others.

Some faculty also suggest that the learning environment is enriched by the involvement of student participation and one faculty member extended this to the belief that student collaboration was more important than academic dishonesty when he said, “[f]or my part, collaboration in building a rich and positive learning environment is more important than the plagiarism issues (F1). F1 also commented on collaboration as an important strategy for learning when he said, “[i]f all students [s]hare ideas, and student no. 1 is seen as someone who fostered discussion, then the student's move is enriching everyone's experience. This same faculty member commented, “[s]tudents who create collaboration opportunities can truly enrich the learning experience.”

Collaboration is An Element of Learning. One student (S6), wanted her instructors to be aware that just because she consulted others, she was not trying to avoid work when she said, “[e]xchanging ideas and knowledge should not be treated the same as someone intentionally avoiding work by borrowing the ideas of another.” Another student (S2), provided this comment, “[i]deas can be shared for the purpose of adding more depth and perception to the topic.” S1 when commenting on peer review said, “I write the draft and they suggest better ways of wording things.” These students see the need for collaboration to assist in their own learning process, but may not recognize the need to provide information about their collaboration efforts.

When students were asked to comment on a particular scenario where a student asked other students to provide exam questions, most had a favourable response. Student saw the need to have clear instructions and suggestions of how they might spend their preparation time. Many students have anxiety about the testing process and ways to alleviate that anxiety are seen as positive. S1 said, "I like to find out how professors test. Each one tests differently and it is important to know. Some are looking for applied knowledge and others straight definitions." S2 also thought that it was okay "if they are using this as practice questions I think it is fine."

S3 had a slightly different view of this scenario; he saw it as an opportunity for online students to be treated similarly as those who are meeting on-campus. He expressed

> Again, people ask friends for copies of other exams and since this is not traceable, why should this person get an unfair advantage. The fact is that, fair or not, this happens in university and the more connections you have, the better you will fair. There is 0% honesty, and for somebody who actually studies and receives a lower mark because they know what to study isn't fair, so if he/she can level the playing field using an electronic medium, then it is fair. This should only be considered cheating if it can be known for sure that nobody has access to questions on the exam.

Interestingly, the entire faculty group saw the query about exam questions as fair, with the exception of one faculty member. The group responses were similar to the student responses and thought that practice was a good idea. The one faculty member S5, who had a different opinion did not dispute the fact that students needed to have practice, but rather she did not think that the student should control that information, instead she

believes that the department should be the authority. S5 commented, “although some departments do give out sample exams- that decision must come from the supervisors of the course/department-not from other students.”

The institution has mainly used the transmission method as an instructional strategy in the majority of the courses delivered to students. In the past five years, although there has been a shift to more dynamic interactive styles of instruction, going from lecture-based presentations that are teaching centered to experiential and activity based, learning centered strategies, the pace is not as quick as students, or some faculty, would like. Students are accustomed to learning in a collaborative manner without realizing the necessity of citing collaborative work.

Sims, citing the work of Kays and Francis suggests that the new forms of learning and technology cannot “easily be addressed” by the accepted forms of instructional design and that new design methods are necessary (Sims, 2008, p. 153). Given this paradigm, should there be new ways of thinking about collaboration and ownership of academic materials? One student elaborated on what he saw as a superiority of the technologies when he stated:

> When doing a group project, collaborating online is far more effective and efficient since information can be shared much more easily, ie. entire files can be sent via instant message or email. With tools such as instant messaging and video calls, even discussion is possible. Face to face collaboration is good for preliminary work to decide what task everyone will be assigned, however online collaboration after that is superior, until another meeting is needed. (S. 4)

Culture Clash

The differences in the cultures as indicated in the themes are not as distinct as one might expect. There are similarities and differences in the perspectives of both students and faculty. Some believe that the technology allows for a more leveling playing field while others view the technology as a toy, not to be taken seriously in an academic world. Prensky (2001) believes that the distinction between the Digital Natives and immigrants is more age related than do others (Toledo, 2007). The academic institutional culture may be at odds with the teaching and learning philosophy of both students and faculty. The conflict of knowing what might work best in the classroom

Summary

Interest in faculty and student perceptions of academic integrity and the use of Web 2.0 technologies began the exploration of this topic. The interest led to an investigation of a bounded study of a limited number of faculty and students as well as the policies of the University. This mixed methods study "operationalized a view of reality and the research process" (Sandelowski, 1996). The collection of the data from surveys and interviews led to "the voice of the researched" (Ebbs, 1996, p. 218) and those voices rely on the "accuracy, sensitivity and comprehensiveness" (Peshkin, 1993, p. 24) of the descriptions and authenticity of the text as reported by the researcher.

The analysis of the text produced a total of 33 codes that were sorted by frequency and regrouped into seven categories and subsequently four themes: *institutional culture, instructor culture, student culture* and *learning culture.* Each theme represents a culture that is reflective of the perceptions of academic integrity and the use of Web 2.0 technologies. Weston et al. (2001) suggest that the process of coding allows for the

emergence of the macro view of the phenomenon, the closer view of the phenomenon by the coding experience and then an opportunity to view how perceptions might have changed based on the micro view. This *zooming in* and *zooming out* was not used as a method to gather more data, as is the practice with grounded theory, but rather had an effect on the manner in which the data was analyzed.

CHAPTER V

CONCLUSIONS AND RECOMMENDATIONS

> The point is that while the need for wise people to discuss, define, compare, and evaluate perspectives is not changing, the means by which they do so and the quality of their efforts are growing more sophisticated because of digital technology.
>
> (Prensky, 2009)

This explanatory mixed methods case study was inspired by news in the popular press that a student who had used a Facebook® social software site was being suspended from school because he was accused of academic dishonesty for collaborating online with his classmates. Because of this news, I began to wonder about the impact of Web 2.0 technologies on academic integrity in other institutions. Academic integrity is at the core of scholarship and anything that threatens that honesty and value system needs to be carefully considered.

Research Questions

Grand Tour Question. The grand tour question was, *What are the varying perspectives of academic integrity in relation to online learning with the use of Web 2.0 technologies?* Analysis of the data demonstrated that faculty and students held various perspectives about the use of Web 2.0 technologies and academic integrity. In both groups, there were contrasting views by the participants in how the scenarios were rated. Not all faculty agreed on the permissibility of the defined scenarios. In each of the scenarios, at least one faculty participant thought that the situation was indicative of academic misconduct. However, students collectively agreed that in scenarios one and

four no misconduct occurred. In scenario one, the student consults a friend when they cannot reach the tutor who then helps the student to complete the assignment questions. In scenario four, a student posts a call for others to suggest questions that have been on previous exams or assignments. Again, all but one faculty participant (the same faculty participant for both scenarios) agree that this is permissible behaviour. In scenarios two and three, the response is more varied. In scenario two, students are collaborating with each other in an online course, and use each other's suggestions and critiques, but do not cite each other. Two students thought this was academically dishonest, while four did not. Two faculty thought it was also dishonest, but three thought it was appropriate behaviour. In scenario three, a student creates a wiki after viewing a web site that reviews a film that needs to be scrutinized. The student uses material generated from the wiki. The students were evenly split on the decision of whether or not this behaviour demonstrated academic dishonesty, while of the faculty, four believed it was dishonest and one thought it was permissible.

Gbadamosi (2004) suggested that we often assume that everyone has the same understanding of a situation and that by simply including the institutional vocabulary, everyone understands the policies and procedures. In 1997, Ashworth, Bannister and Thorne found that there were multiple understandings of permissible academic integrity behaviour and concluded that students should be treated as "junior members of a scholarly community" (p. 201). The key question of this basic exploratory study queried the various perspectives that students and faculty held in regards to the use of Web 2.0 technologies and academic integrity.

Sub question one. *What constitutes official and unofficial discussions*? Several comments about discussion forums voiced by both faculty and students indicate that students are often confused about the permissibility of discussion forums. F2 said, "the policies aren't clear or explained", while S2 stated, "online collaboration is no different from collaboration in person, it is only more convenient for students because they do not have to use time to meet with friends an can do other things while they are online." S4 stated that "any student who is seriously thinking of skipping out on work and copying off someone else is not stupid enough to copy something off of a wiki or public site anyways." S4 went further to state that Turnitin® would catch this type of plagiarism anyways, so students wouldn't be that naïve to use someone else's work.

Sub question two. *How do students understand academic integrity*? Students were not asked this question directly, but their responses to the scenarios indicated that they held various ideas about the definition of academic integrity. Some students seem to believe that academic integrity is upheld if there is an honest attempt to find answers on their own in addition to collaborating with others, but that only reporting on answers from the group would be dishonest. One student commenting on the Web 2.0 technologies said that "it [Facebook®] is not designed to violate academic integrity, and from my personal experience, it is not used for such purposes either." Another stated, "I do not believe we can call it cheating simply because of the fact that he used the internet." One student stated that academic dishonesty can occur whether or not it was intentional and that online collaboration could lead to a "repository of ideas that can be easily taken and/or reproduced - without any intention of malice." S3 believes that using friends' suggestions for making the assignments better is okay without citing the friend because "are you

going to cite a friends suggestion?" S4 thinks that taking friends' suggestions is wrong if done without citing them. Some students believed that using quotes without proper citation was dishonest, but using *ideas* without proper citation was not dishonest.

Sub question three. *How does faculty understand academic integrity*? Faculty were not asked this question directly, but all of their responses included their perceptions academic integrity. One faculty member reported that a student who collaborated with another would be committing academic dishonesty if he just took the answers from the other student, but would not be dishonest if they used the answers to come up with their own solutions. Collaboration by itself wouldn't constitute dishonesty but directly copying answers would constitute dishonesty according to this faculty. Two faculty members stated that collaboration of any kind would be too difficult to police, so all collaboration should be discouraged. Another faculty member reported that students needed to understand academic integrity better, that the rules that governed such behaviour was not clear, and that "students don't read the policies anyways."

Sub question four. *How could online collaboration be construed as academic dishonesty?* The responses to this question were again varied among the groups of students and faculty. One faculty member suggested that the rules that governed academic integrity were too harsh at the institution and believed that student should be allowed to collaborate because it was "an asset." He went further to state that "it is worth taking a chance on it, even though at times the line between acceptable and unacceptable behaviour is not clear." Another faculty member said that collaboration was not about "lightening the load", and that "sharing papers was not the same thing as sharing information." One student reported that collaboration was fine as long as students were

not using it as a substitution for their own work. Yet another said that as long as students were "frank" about their involvement with each other than it was okay. Two other students suggested that all collaboration should be okay, regardless if it was online or not, while the third student said that faculty had a right to be suspicious of student collaboration.

Themes

From the data emerged 33 codes, seven categories, four themes, and two overarching themes. The themes centered on culture: institutional, faculty, student and learning. The two overarching themes of the data were cultural dissonance and culture clash. Culture is described as a set of shared values, goals and practices, while dissonance is inconsistency or incongruency (Merriam Webster, 2009). Educational technology is advancing at such a pace that the academy finds it nearly impossible to keep up. The rules and regulations pertaining to academic integrity simply are not congruent to the technologies that some students and faculty are using.

In the theme of institutional culture, the sub themes of academic violations, ethical foundations and print vs. online emerged. Many universities in Canada have a public document that describes the types and amounts of academic integrity violations within a given year. In the document produced by the study University, numerous incidents were reported about inappropriate collaboration but many also stated that students had not intended to cheat. Ethical foundations are at the core of the academic integrity. The University policies are not necessarily transferable from print based to online. The manner in which information is conveyed is also not always conducive to polite

protocols. Culture is often made up of little known rules and expectations and it appears as though the institution was unaware of the message that those in charge were sending.

In the theme of faculty culture, the sub themes of philosophy of teaching, technology as toy, and expectations versus experience emerged. The worldview of the individual faculty member depended upon personal teaching philosophy. Some faculty held academic integrity in high esteem, while others viewed collaboration as important for student learning, and were not as concerned about academic integrity. One faculty member viewed Web 2.0 technology as toys, not tools in the educational sense and said that this technology should not be used in the serious academic environment. Some faculty were not as versed in the technology use as were their students and didn't seem to understand the capabilities of the technology tools like wikis and blogs. The lack of technical experience did speak to the digital divide, as identified by Prensky (2001, 2007, 2009), Toledo (2007) and others.

In the theme of student culture, the sub themes of creative problem-solving capabilities, leveling-effect, and value system emerged. Some students held problem-solving capabilities in high esteem, even when the use of such abilities might violate academic integrity. Students, for the ease in which communications could occur, also appreciated technology. Many wrote that online communication was seen as equal, and in some cases superior to face-to-face communication. In the sub theme of value system, students seem to be in a state of flux. Some students said that they firmly believed in the values of academic integrity, yet when they responded to some of the scenarios, those values were not consistent with the choices they made.

In the theme of learning culture, the sub themes of enrichment and collaboration as an element of learning emerged. Some faculty and students felt that the learning environment was enriched when students were allowed to collaborate online. The use of a wiki helped one student to understand the material studied, from an alternative perspective than if they had done the assignment on their own. Another student wanted to be sure that her instructors understood that she was not trying to cheat when she collaborated with others, because the addition of others added a depth that she may not have reached on her own.

Interrelationship of the four cultures

The four cultures made discreet by the themes suggested by the data are interrelated. The institution makes the rules identified by the administrators and interpreted by the faculty and the students. The administrators of the institutional policies attempt to make the policies open enough to embrace differences in disciplines in ways that could be interpreted as inclusive at best, confusing at worst. The policies attempt to level the playing field for students' learning.

The students' expectations and experiences influence their understanding of the policies and their abilities to follow through on the institutional expectations. If students were not taught, or not caught when plagiarism occurred in their high schools, the chances are greater that they will re-offend. If students are not able to discern that faculty members may view Web 2.0 technologies differently then students may make errors unintentionally.

The faculties' teaching philosophy and experiences along with their expert knowledge affect the way in which they interpret the policies and design their

assignments for students. If faculty members do not have experiences with the Web 2.0 technologies and view the technologies as *frivolous tools* the faculty will then be at odds with students' expectations if students view the technologies differently.

Students who view the learning experience as a collaborative endeavour and Web 2.0 technologies as methods for creative problem solving may be at odds with both the institutional policies and their instructors' expectations. This dissonance can affect the learning experience for both the instructor and the student.

Implications for Practice

Both students and faculty in this study have varying opinions of what is permissible and what is not. When the institutional policies and the perceptions of the members of the academic community do not match then there are more chances of academic dishonesty. This dishonesty might occur due to miscommunication, ill expressed expectations or lack of experience with the technology. In this particular University and for this group of students and faculty, it is important to gain a broader understanding of the issues and concerns about academic integrity and the use of Web 2.0 technology. "Although interventions to curtail student cheating through education and policing of students are important, training of teachers about the concept of plagiarism in combination with instruction about the latest technology, including search engines and peer-to-peer communication tools, is also key" (Sisti, 2007, p. 226).

Students' usage of the various Web 2.0 technologies differs from faculty use of the same technology. This usage calls into question the understanding of the nature of communication in Web 2.0 technologies like Facebook® by both faculty and students. Do

faculty need to have further professional development in the use of the technologies? If the answer is yes, then training sessions should be scheduled.

Sisti (2007), reporting on internet plagiarism by high school students, suggests that if teachers of high school students are unsure of the rules and regulations about academic integrity then students who are entering university will also be confused about what is and is not allowed. Although all of the participants in this study about technology and Web 2.0 said that they were aware of academic integrity before they came to the University, it was clear that they had varying perspectives of allowable and not allowable materials.

Having one set of expectations for each discipline can confuse students who are unaware of the various methods of proper citation. Instead of instituting a universal ban on use of wikis and other Web 2.0 technologies, instructors and students should seek to understand the tools and collaboration methods and to provide clear expectations of what is allowed and what is not permissible. Heterogenesis, or the change that incurs as the shift between traditional and digital media happens, should ensure that information for faculty, students, and the institution remains congruent because the new technologies may alter the expectations and rules of citation.

Experts and novices process information differently and recognition of this difference is important. Daley (1999) posits that novice learning depends on the context in which the material is learned and that experts have different organizational behaviours that either facilitate or hinder their learning. Information about academic integrity should be expressed appropriately for the students' level of understanding.

It is important at both the program and curriculum design levels to discuss academic expectations and convey those requirements to the students and faculty. At the course level, course materials should include information about citation methods and academic integrity issues. In the early undergraduate years, explanation and education of what is construed as plagiarism and cheating is of paramount importance. As this study indicated, understanding of the rules was not consistent among students.

The distance education department at the University can help faculty members be clear about their expectations by making the academic integrity information prominent in the template that accompanies each course within the LMS. Although academic integrity information is posted online through the syllabus, the information is often too generic for the course. When faculty are designing courses, they need to make their expectations about collaboration and the use of Web 2.0 technologies explicit.

At the assignment level, again the expectations should be clearly expressed as part of the template process for directions as well as links to library information about proper citation usage. The citation style should be prominently identified and as a practice it should be modeled within the course reading list.

The institution should continue to promote scholastic behaviour from both the faculty and students. Policies should be inclusive of the various methods and philosophies of teaching and learning while being flexible enough to accommodate online collaboration and resource materials. Clear expectations are necessary for both faculty and students alike. The Academy seems slow to respond to new technologies, so it is possible that cheating or citation rules do not keep pace with the expectations.

Recommendations for Future Studies

This case study conducted with explanatory mixed methods design was bounded to a single Canadian University with a small group of 69 students with six online follow-up questionnaires, and 10 faculty with five follow-up questionnaires. Thus, it will be important to see if the findings transfer to other courses, faculty, students and institutions and with greater numbers.

Further inquiry involving geographical immigrants would address possible differences in cultural understanding of cheating. Do students and faculty who have not been educated in North America hold the same perspectives? Researchers (Kaur, 2006; Leask, 2006; Pulvers & Diekhoff, 1999) have discovered that differences in ethnic culture may be one rationale for what is perceived as cheating behaviour, but little research has been done to explore the culture of learning in the online context from a perspective other than the dominant culture. If dominant culture is considered from a sociological analysis perspective through the lens of conflict, it is possible that a powerful few in an institution control the values and norms that create the relative imbalance of the dominant culture (Kendal, Lothian Murray & Linden., 2004). The numbers in the population does not determine the dominant culture, but rather by the power, it wields.

It would also be relevant to the field to discover if planned intervention and education about academic integrity and Web 2.0 technologies would make a difference to the amount and type of plagiarism and dishonesty in a university. Townley and Parsell (2004) suggest that online plagiarism is a failure of community, not technology, and those values and attitudes are often not transferred between generations.

Investigation about various perspectives across the disciplines could be explored. For example, does academic integrity carry parallel definitions among mathematics students and faculty as with those in the arts? Does the philosophical understanding of learning and teaching across disciplines impact the way collaboration is viewed within the learning environment? If so, does that mean that technology and collaboration need to have different, inclusive rules from traditional collaborative modes?

As more students than faculty currently use social networking tools like Facebook®, this calls into question the need to explore the understanding of this type of communication further, from both faculty and student perspectives. Will the use of these types of communication tools impact on academic integrity as the idea of academic materials ownership changes? Will students and faculty need further development on the academic use of the tools?

Should students and faculty be tested about their understanding of the issues regarding academic integrity before they commence their experience at the University? An investigation of this question may help institutions uphold academic integrity by addressing the importance at the beginning of university life. Such an assessment may ensure that the level of understanding was congruent among new students and faculty. Opportunities for education about academic integrity could be explored if the student or faculty member was not successful in the initial assessment phase. If the understanding was consistent with the institution and all parties, inclusive of faculty and students, then what would academic integrity issues look like?

Applying Mixed Methods Research to Online or Web 2.0

As web survey research is currently in its infancy (Couper & Miller, 2008) it is unknown if the same data collection methods are appropriate to capture all information. Could an online text questionnaire act as an interview if one is studying online learning and responses or is it necessary to speak to the person? As qualitative analysis methods evolve, data collected by methods other than the spoken word: emails, discussion forum postings etc. are currently analyzed. Could it make sense to also survey and interview in the media that one is researching? Wheeldon (2010) wonders "whether and how data collection procedures from other disciplines can be used in mixed methods research and how these tools may influence and inform methods, measures and meanings" (p. 88).

Enrolment Process

The way that information was asked could have been a barrier for some participants. Academic integrity is a charged issue so many may have been reticent to respond to a survey about the issue. Students, although they were assured that their responses would not hinder their involvement in the course or program or with the instructors or department, still may have been reluctant to participate. The concern about privacy and the desire for the research to be conducted within the learning management system of the university might have indeed jeopardized the collection of the data, simply because it was the University learning management system. It is unknown if the location of the survey had resided elsewhere — on the LMS or on a different server— if the response rate would have increased or reduced the response rate. This study has demonstrated that students frequently do not use the discussion forums within the LMS so

this raises the question of whether Web 2.0 technologies should be included as a data collection option to capture the data about Web 2.0 usage and academic integrity.

Final Comment

In conclusion, the results of this study on academic integrity and the use of Web 2.0 technologies revealed different perspectives among and between students and faculty that may be attributed to cultural differences between Digital Natives and Digital Immigrants and aggravated by inconsistent, unclear policies. Expectations need to be congruent among all parties, including the University, especially with the emergence of new technologies. The University needs to acknowledge that students and faculty could be using the new technologies and that the responsibility to convey expectations lies with the University.

> Particularly because of the ubiquitous opportunities for digital content and the reported asymmetry in technical sophistication between student and teacher, there is more room for teacher instructional error vis-à-vis, the nature of Internet plagiarism and what constitutes acceptable and unacceptable practices.
>
> (Sisti, 2007, p. 226)

REFERENCES

Academic Integrity Committee. (2007). *Toward a level playing field: Enhancing academic integrity at the University of Waterloo.* University of Waterloo. Retrieved October 12, 2007, from http://www.secretariat.uwaterloo.ca/OfficialDocuments/AIreport.pdf

American Psychological Association. (2001). *Publication manual of the American psychological association.* American Psychological Association: Washington.

American Psychological Association. (2010). *Publication manual of the American psychological association.* American Psychological Association: Washington.

Anderson, T. & Kanuka, H. (2003). *e-Research: Methods, strategies and issues.* Toronto, ON: Allyn and Bacon.

Angen, M. J. (2000). Evaluating interpretive inquiry: Reviewing the validity debate and opening the dialogue. *Qualitative Health Research, 10*, 378-395.

Ashworth, P., Bannister, P. & Thorne, P. (1997). Guilty in whose eyes? University students' perceptions of cheating and plagiarism in academic work and assessment. *Studies in Higher Education, 22*, 187-203.

Barr, R. B. & Tagg, J. (1995). From teaching to learning: A new paradigm for undergraduate education. *Change*. Heldreff Publications: Washington. Retrieved August 24, 2008, from http://critical.tamucc.edu/~blalock/readings/tch2learn.htm

Baron, J. & Crooks, S. M. (2005). Academic integrity in web based distance education. *Tech Trends: Linking Research and Practice to Improve Learning, 42*(2), 40-45.

Bech, M. & Kristensen, M.B. (2009). Differential response rates in postal and web-based surveys among older respondents. *Survey Research Methods, 3*(1), 1-6.

blur verb. *The Oxford Dictionary of English* (revised edition). (2005). C. Soanes & A. Stevenson (Eds.). Oxford Reference Online. Oxford University Press. Retrieved 5 June 2009, from http://0-www.oxfordreference.com.aupac.lib.athabasca.ca/views/ENTRY.html?subview=Main&entry=t140.e8201

Bødker, S. (2000). Scenarios in user-centred design-setting the stage for reflection and action. *Interacting with Computers 13*, 61-75.

Bogdan, R.C., & Biklen, S. K. (1998). *Qualitative research in education: An introduction to theory and methods.* Needham Heights, MA: Allyn and Bacon.

Bowen, G.A. (2005). Preparing a qualitative research-based dissertation: Lessons learned. *The Qualitative Report, 10*(2), 208-209.

Boyatzis, R.E. (1998). *Transforming qualitative information: Theme analysis and code development.* Thousand Oakes, CA. Sage Publications.

Boyd, D. M., & Ellison, N. B. (2007). Social network sites: Definition, history, and scholarship. *Journal of Computer-Mediated Communication*, 13, article 11.

Bradley, E.H., Curry, L.A., & Devers, K.J. (2007). Qualitative data analysis for health services research: Developing taxonomy, themes, and theory. *Health Services Research, 42,* 1758-1772.

Carnegie Mellon. (2008). *Information for instructors.* Retrieved April 11, 2008 from http://www.studentaffairs.cmu.edu/acad_int/infoteach.html

Carroll, J.M., (2000). Five reasons for scenario-based design. *Interacting with Computers, 13*, 43-60.

CBC website. (2008). Retrieved March 11, 2008 from http://www.cbc.ca

Chou, P.N., & Chen, H.H. (2008). Engagement in online collaborative learning: A case study using a Web 2.0 tool. *Merlot Journal of Online Learning and Teaching, 4*, 574-582.

Couper, M.P., & Miller, P.V. (2008). Web survey methods. *Public Opinion Quarterly, 72*, 831-835.

Creswell, J. W. (2003). *Research design: Qualitative, quantitative and mixed methods approaches* (2nd ed.). Thousand Oaks, CA: Sage Publications.

Creswell, J. W. (2007). *Qualitative inquiry and research design: Choosing among five approaches*. Thousand Oaks, CA: Sage Publications.

Creswell, J.W. (2009). Mapping the field of mixed methods research. *Journal of Mixed Methods Research, 3*(2), 95-108.

Creswell, J.W. & Plano Clark, V.L. (2007). *Designing and conducting mixed methods research.* Thousand Oakes, CA: Sage Publications.

Creswell, J.W. Shope, R. Plano Clark, V.L. & Green, D.O. (2006). How interpretive qualitative research extends mix methods research. *Research in the Schools 13*, 1-11.

culture. (2009). In Merriam-Webster Online Dictionary. Retrieved October 22, 2009, from http://www.merriam-webster.com/dictionary/culture

culture. (nd). Tesol glossary. Retrieved March 8, 2008, from http://www.tesol.org/s_tesol/sec_document.asp?CID=113&DID=317

Daley, B.J. (1999). Novice to expert: An exploration of how professionals learn. *Adult Education Quarterly, 49*(4), 133-147.

Daley, B.J. (2004). Using concept maps in qualitative research. *Concept Maps: Theory, methodology, technology.* Proceedings of the First International Conference on Concept Mapping. A. J. Cañas, J. D. Novak, F. M. González, (Eds.). Pamplona, Spain.

Davy, J. A., Kincaid, J. F., Smith, K. J. & Trawick, M. A. (2007). An examination of the role of attitudinal characteristics and motivation on the cheating behavior of business students. *Ethics & Behavior*, *17*, 281-302.

Denscombe, M. (2008). Communities of practice: A research paradigm for the mixed methods approach. *Journal of Mixed Methods Research, 2*(3), 270-283.

Dever, J. A., Rafferty, A., & Valliant, R. (2008). Internet surveys: Can statistical adjustments eliminate coverage bias? *Survey Research Methods*, *2*(2), 47-62.

dissonance. (2009). *In Merriam-Webster Online Dictionary*. Retrieved November 9, 2009, from http://www.merriam-webster.com/dictionary/dissonance

Downes, S. (2007). Places to go: Facebook. *Innovate: Journal of Online Education 4*(1). Retrieved October, 2008, from http://innovateonline.info/

Driscoll, M.P. (2005). *Psychology of learning for instruction* (3rd ed.). Boston, MA: Pearson Education, Inc.

DTS-DMin Handbook. (2008). *The doctor of ministry program: Student handbook.* Retrieved September 23, 2008, from: http://www.dts.edu/utility/file.aspx?id=49.

Ebbs, C. (1996). Qualitative research inquiry: Issues of power and ethics. *Education, 117* (2), 217-223.

English, R. & Duncan-Howell, J. (2008). Facebook© goes to college: Using social networking tools to support students undertaking teaching practicum. *Merlot Journal of Online Learning and Teaching, 4*, 596-601.

Experiences. (2000). *American Heritage Dictionary*. Boston: Houghton-Mifflin.

Eye Opener. (2008). Online Newspaper for Ryerson University. Retrieved March 20, 2008, from http://www.eyeopener.com

Fetterman, D. M. (1998). *Ethnography: Step by step.* Thousand Oaks, CA: Sage Publications.

Freedom of Information and Protection of Privacy Act. (2006). Retrieved April 11, 2009, from http://www.e-laws.gov.on.ca/html/statutes/english/elaws_statutes_90f31_e.htm

Garrison, R. D., & Cleveland-Innes, M. (2005). Facilitating cognitive presence in online learning: Interaction is not enough. *The American Journal of Distance Education, 19*(3), 133-148.

Gbadamosi, G. (2004). Academic ethics. What has morality, culture and administration got to do with its measurement? *Management Decision, 42*, 1145-1161.

Glesne, C. & Peshkin, A. (1992). *Becoming qualitative researchers: An introduction*. New York: Longman.

Gray, K., Thompson, C., Clerehan, R., Sheard, J., & Hamilton, M. (2008). Web 2.0 authorship: Issues of referencing and citation for academic integrity. *Internet and Higher Education, 11*(2), 112-118.

Greene, J.C. (2008). Is mixed methods social inquiry a distinctive methodology? *Journal of Mixed Methods Research, 2*(7), 7-22.

Groark, M., Oblinger, D. & Choa, M. (2001). Term paper mills, anti-plagiarism tools and academic integrity. *Educause Review.* Retrieved October 15, 2007 from http://educause.edu

Gulati, S. (2004). *Constructivism and emerging online learning pedagogy: A discussion for formal to acknowledge and promote the informal.* Paper presented at the Annual Conference of the Universities Association for Continuing Education - Regional Futures: Formal and Informal Learning Perspectives, Centre for Lifelong Learning, University of Glamorgan, April 2004. Retrieved April 11, 2008 from http://www.leeds.ac.uk/educol/documents/00003562.htm

Hamilton, M. & Richardson, J. (2007). An academic integrity approach to learning and assessment design. *Journal of Learning Design, 2*(1), 37-51.

Harding, T. S., Carpenter, D. D., Finelli, C. J., & Passow, H. J. (2004). Does academic dishonesty relate to unethical behavior in professional practice? An exploratory study. *Science and Engineering Ethics, 10,* 311-324.

Hodges, J. P. (2006). Unofficial student online discussion boards: Enhancing learning or encouraging learning. *Michigan Journal of College Student Development.* Retrieved April 6, 2008, from: http://www.lon-capa.org/papers/ MCPAJrnl_OnlineDisBrds.pdf

Jeong, W., (2007). Instant messaging in on-site and online classes in higher education. *Educause Quarterly, 30*(1), 30-36.

Johnson, B.R. Onwuegbuzie, A.J. & Turner, L.A. (2007). Towards a definition of mixed methods research. *Journal of Mixed Methods Research, 1*, 112-133.

Kanuka, H., & Anderson, T. (1999). Using constructivism in technology-mediated learning: Constructing order out of the chaos in the literature. *Radical Pedagogy, 1*(2), np. Retrieved April 6, 2008 from http://radicalpedagogy.icaap.org/content/issue1_2/02kanuka1_2.html

Kanuka, H. & Anderson, T. (2007). Ethical issues in qualitative e-learning research. *International Journal of Qualitative Methods, 6*(2), 20-39.

Kaplowitz, M., Hadlock, T., & Levine, R. (2004). A comparison of web & mail survey response rates. *Public Opinion Quarterly, 68*(1), 94-101.

Kaur, D. (2006). *International students and American higher education: A study of the academic adjustment experiences of six Asian Indian international students at a research level II university.* Doctoral dissertation, University of North Carolina at Charlotte, 2006. Available at http://hdl.handle.net/2029/70.

Kazman, R., Abowd, G., Bass, L., & Clements, P. (1996). Scenario-based analysis of software architecture. *IEEE Software, 13*(6), 47-55.

Kendall, D., Lothian Murray, J. & Linden, R. (2004). *Sociology in our times* (3rd ed.). Toronto: Thompson Nelson.

Kidwell, L. A., Wozniak, K. & Laurel J. P. (2003). Student reports and faculty perceptions of academic dishonesty. *Teaching Business Ethics, 7*, 205-214.

Konieczy, P. (2007). Wikis and Wikipedia as a teaching tool. *International Journal of Instructional Technology & Distance Learning, 4*(1), n.p.

Kvavik, R. (2005). Convenience, communications, and control: How students use technology. In Oblinger, D. G. & Oblinger, J. L. (Eds.). *Educating the net*

generation. Retrieved December 12, 2007, from http://www.educause.edu /Resources/EducatingtheNetGeneration/ConvenienceCommunicationsandCo/6070

Leask, B. (2006). Plagiarism, cultural diversity and metaphor-implications for academic staff development. *Assessment & Evaluation in Higher Education, 31*(2), 183-199.

Lester, M. C. & Diekhoff, G. M. (2002). A comparison of traditional and internet cheaters. *Journal of College Student Development, 43*(6), 906- 914.

Mabrito, M. (2004). Guidelines for establishing interactivity in online courses. *Innovate Journal of Online Education, 1*(2). Retrieved October 8, 2008 from http://innovateonline.info/index.php?view=article&id=12

McCabe, D. L., Butterfield, K. D., & Trevino, L. K. (2003). Faculty and academic integrity: The influence of current honor codes and past honor code experiences. *Research in Higher Education, 44,* 367-385.

McCabe, D. L. & Pavela, G. (2000). Some good news about academic integrity. *Change, 33*(5), 32-38.

McCabe, D. L., Trevino, L. K., & Butterfield, K. D. (2002). Honor codes and other contextual influences on academic integrity: A replication and extension to modified honor code settings. *Research in Higher Education, 43,* 357-378.

Memory Alpha (2009). *How to cite using Memory Alpha*. Retrieved on December 9, 2009, at 4:27 EST http://memory-alpha.org/en/wiki/Memory_Alpha:Citing_Memory_Alpha

Merriam, S. B. (1998). *Qualitative research and case study applications in education*. San Francisco: Jossey-Bass Publications.

Mertens, D. M. (1998). *Research methods in education and psychology: Integrating diversity with quantitative & qualitative approaches.* Thousand Oaks, CA: Sage Publications.

Miles, M. B. & Huberman, A. M. (1994). *Qualitative data analysis* (2nd ed.). Thousand Oaks, CA: Sage Publications.

Milliron, V., & Sandoe, K. (2008). The net generation cheating challenge. *Innovate Journal of Online Education, 4*(6). Retrieved September 8, 2008, from http://innovateonline.info/

Moore, M. & Kearsley, G. (2005). *Distance education: A systems view.* Wadsworth: Belmont.

Muirhead, B. (2004). Research insights into interactivity. *International Journal of Instructional Technology and Distance Learning, 1*(3), 65-70.

Myers, D.G. (2007). *Psychology (*8th ed.). New York, NY: Worth Publishers.

Neuman, W. L. (2006). *Social research methods: Qualitative and quantitative approaches*. Boston: Pearson.

Oblinger, D. G. & Oblinger, J. L. (2005). *Educating the net generation.* Retrieved October 8, 2008, from http://educause.edu

Ortlipp, M. (2008). Keeping and using reflective journals in the qualitative research process. *The Qualitative Report, 13*(4), 695-705.

Peshkin, A. (1993). The goodness of qualitative research. *Educational Researcher, 22*, 23-29.

Philip, D. (2007). The knowledge building paradigm: A model of learning for net generation students. *Innovate: Journal of Online Education, 3*(5), np. Retrieved October 8, 2008, from: http://innovateonline.info

Porkess, R. (2005). *Collins dictionary of statistics* (2nd ed.). Glasgow: HarperCollins Publishers.

Prensky, M. (2001). Digital natives, digital immigrants. *On the Horizon, 9*(5). MCB University Press. Retrieved April 10, 2008, from http://www.marcprensky.com/writing/Prensky%20-%20Digital%20Natives,%20Digital%20Immigrants%20-%20Part1.pdf

Prensky, M. (2007). Changing paradigms: from being taught to learning on your own with guidance. *Educational Technology*. July/August. Retrieved July 2, 2008, from http://www.marcprensky.com/writing/

Prensky, M. (2009). H.sapiens digital: From digital immigrants and digital natives to digital wisdom. *Innovate: Journal of Online Education, 5*(3). Retrieved February 1, 2009, from http:www.innovateonline.info

Pulvers, K. & Diekhoff, G. M. (1999). The relationship between academic dishonesty and classroom environment. *Research in Higher Education, 40*(4), 487-498.

Ramanau, R. & Geng, F. (2009). Researching the use of Wiki's to facilitate group work. *Procedia Social and Behavioral Sciences, 1,* 2620-2626.

Roberts, G. (2005). Technology and learning expectations of the net generation. In Oblinger, D.G. & Oblinger, J. L. (Eds.). *Educating the net generation*. Retrieved October 8, 2008, from http://educause.edu

Robinson-Zañartu, C., Peña, E.D., Cook-Morales, V., Peña, A.M., Afshani, R., & Nguyen, L. (2005). Academic crime and punishment: Faculty members' perceptions of and responses to plagiarism. *School Psychology Quarterly*, *20*(3), 318-337.

Roblyer, M.D., McDaniel, M., Webb, M., Herman, J. & Witty, J.V. (in press). Findings on facebook in higher education: A comparison of college faculty and student uses and perceptions of social networking sites. *The Internet and Higher Education* 13.

Sandelowski, M. (1996). Using qualitative methods in intervention studies. *Research in Nursing Health, 19*, 359-364.

Shih, T., & Fan, X. (2008). Comparing response rates from web and mail surveys: A meta- analysis. *Field Methods, 20*, 249-271.

Shih, W.C., Tseng, S.S., & Yang, C.T. (2008). Wiki-based rapid prototyping for teaching-material design in e-Learning grids. *Computers & Education, 51*, 1037-1057.

Shkedi, A. (2005). *Multiple case narrative: A qualitative approach to studying multiple populations*. Philadelphia PA: John Benjamins.

Shulman, L. S. (1997). Disciplines of inquiry in education: A new overview. In R. M. Jaegar, (Ed.). *Complementary methods for research in education* (2nd ed.). Washington: D.C.: American Educational Research Association.

Sims, R. (2008). Rethinking (e)learning: A manifesto for connected generations. *Distance Education, 29*(2), 153-164.

Sisti, D. A. (2007. How do high school students justify internet plagiarism? *Ethics & Behavior, 17*, 215-231.

Smith, P.L. & Ragan, T.J. (2005). *Instructional design*. Hoboken, NJ: Wiley & Sons Inc.

Stake, R. E. (1995). *The art of case study research.* Thousand Oakes, CA: Sage.

Stephens, J. M., Young, M. F., & Calabrese, T. (2007). Does moral judgment go offline when students are online? A comparative analysis of undergraduates' beliefs and behaviors related to conventional and digital cheating. *Ethics & Behavior*, *17*(3), 233-254.

Stodel, E. J., Thompson, T. L., & MacDonald, C. J. (2006). Learners' perspectives on what is missing from online learning: Interpretations through the community of inquiry framework. *International Review of Research in Open and Distance Learning*, 7(3), 1-24. Retrieved April 10, 2008, from http://www.irrodl.org/index.php/irrodl/article/view/325/744

Suler, J. (2004). The online disinhibition effect. *CyberPsychology and Behavior, 7*(3), 321-326.

Toledo, C.A. (2007). Digital culture: Immigrants and tourists responding to the native's drumbeat. *International Journal of Teaching and Learning in Higher Education, 19*, 84-92.

Townley, C. & Parsell, M. (2004). Technology and academic virtue: Student plagiarism through the looking glass. *Ethics and Information Technology*, *6*, 271-277.

Underwood, J., & Szabo, A. (2003). Academic offences and e-learning: Individual propensities in cheating. *British Journal of Educational Technology, 34*, 467-477.

University of Windsor. (2009). Retrieved August, 2009, from http://web4.uwindsor.ca/units/senate/main.nsf/982f0e5f06b5c9a285256d6e006cff78/a087aecb6b358d3e8525701f0053a1d8!OpenDocument

University of Windsor Student Discipline Report. Retrieved October 28, 2009, from http://cronus.uwindsor.ca/units/studentservices/main.nsf/032ecd0df8f83bdf8525699900571a93/0ef9850f82be3c3a852571be00606e88/$FILE/Sa080213-5.3.4.%20Third%20Annual%20Discip.%20Report.pdf

Vander Wal, T. (2007). *Folksonomy coinage and definition.* Retrieved April 6, 2008, from http://vanderwal.net/folksonomy.html

Waterhouse, S. & Rogers, R. O. (2004). The importance of policies in e-learning instruction. *Educause Quarterly, 27*(3), 28-39. Retrieved April 6, 2008, from http://www.educause.edu

West, J.A., & West, M.L. (2009). *Using wikis for online collaboration*. San Francisco, CA: Jossey-Bass.

Weston, C., Gandell, T., Beauchamp, J., McAlpine, L., Wiseman, C., & Beauchamp, C. (2001). Analyzing interview data: The development and evolution of a coding system. *Qualitative Sociology, 24*(3), 381-400.

Wheeldon, J. (2010). Mapping mixed methods research: Methods, measures and meaning. *Journal of Mixed Methods Research, 4*(2), 87-102.

Whittemore, R., Chase, S.K., & Mandle, C.L. (2001) Validity in qualitative research. *Qualitative Health Research, 11*(4), 522-537.

Williams, D. (2007). Web 2.0 terms. Retrieved March 10, 2008, from www.webdesignseo.com/blogging-terms/web-20-terms.php

Williams, M. (2007). Avatar watching: Participant observation in graphical online environments. *Qualitative Research, 7*(1), 5-24.

Xin, C. & Feenberg A. (2006). Pedagogy in cyberspace: The dynamics of online discourse. *Journal of Distance Education, 21*(2), 1–25.

Yick, A. G., Patrick, P. & Costin, A. (2005). Navigating distance and traditional higher education: Online faculty experiences. *International Review of Research in Open and Distance Learning, 6*(2), 1-18. Retrieved September 8, 2008, from http://www.irrodl.org/index.php/irrodl/article/viewFile/235/853

Yin, R. K. (2003). *Case study research designs and methods* (3rd ed.). Thousand Oakes, CA: Sage Publications.

Yin, R. K. (2009). Case study research designs and methods (4th ed.). Thousand Oakes, CA: Sage Publications.

APPENDICES

Appendix A

Initial survey for Students

I was born

- 1983-1993
- before 1983

I learned about academic integrity before coming to this university

- Yes
- No

I have been a part of a group for an assignment in a course.

- Yes
- No

I enjoy working with others on assignments.

- Yes
- No

I have/had a social software account like facebook, myspace, zanga, asianavenue, hi5, friendster etc.

- Yes
- No

I have collaborated with others in my class online.

- Yes
- No

I have used the following social software (Web 2.0 technologies) to collaborate with others on an assignment:

- blog
- wiki
- discussion forum in Ace
- text messaging
- instant message
- Facebook®
- My Space®
- Skype ®
- Other Please define:_____

I use Web 2.0 technologies differently when I am not at school.

- Yes
- No

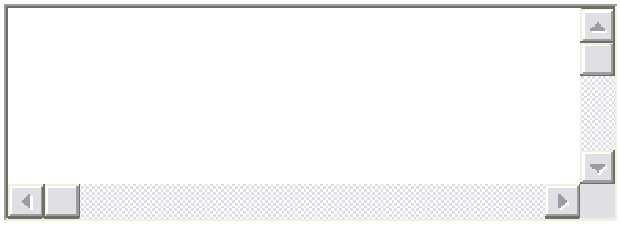
Collaborating online is different than collaborating face-to-face.

Yes

No

Why?

If you are interested in participating further in this study please provide your contact information. I would be very interested in your thoughts about collaboration and online learning.



Appendix B

Faculty Initial Survey

My position with the university is:

- ☐ Full professor
- ☐ Associate professor
- ☐ Adjunct professor
- ☐ Teaching Assistant
- ☐ Instructor
- ☐ Marker

- ☐ Other: Please define_____

I have used group work in courses that I have taught.

- ○ Yes
- ○ No

I want my students to learn course material by collaborating with each other

- ○ Yes
- ○ No

I have/had a social software account like facebook, myspace, zanga, asianavenue, hi5, friendster etc.

- Yes
- No

I have collaborated with my colleagues online in the nature of my job at this university.

- Yes
- No

I have used the following social software to collaborate with others on a work assignment:

- blog
- wiki
- discussion forum in Ace
- text messaging
- instant message
- Facebook®
- My Space®
- Skype ®
- Other

If you are interested in participating further in this study please provide your contact information. I would be very interested in your thoughts about collaboration and online learning.

Appendix C

Academic Integrity Scenarios

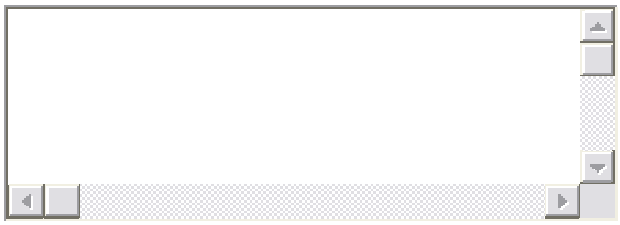
Scenario 1

A student is taking an online statistics course and having difficulty understanding the material. The student has repeatedly asked the Tutor for help, but received no response. The student "*Skypes"* a friend, who then "walks" them through several examples. The student uses the notes that were collected from the friend's examples to complete the assignment questions. Is this cheating?

Yes

No

Why?



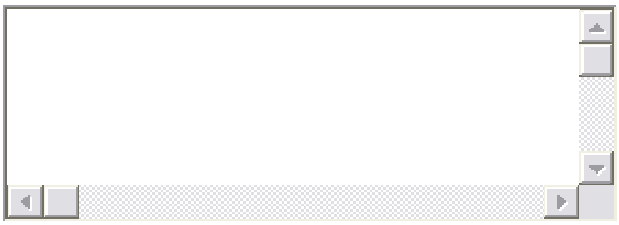
Scenario 2

A student is taking an online professional development writing class and has established a study group of friends. These friends are mostly A and B students. The students have given each other ideas about resources and have critiqued and suggested changes to essays that all have all written. The student has used the suggested changes in phraseology in some of the assignments, but never cited the friends' suggestions. Is this considered plagiarism?

Yes

No

Why?



Scenario 3

A student is taking an online Family Dynamics class and has an assignment that needs them to watch a DVD and then to construct an operational framework that identifies the communication strategies demonstrated in the film. A student does a quick Google search, and discovers that this film has been reviewed extensively and there are some really good ideas that can be used for the project. The student emails classmates and give them the website. The student then sets up a wiki and everyone shares their ideas about the communication framework. The student then uses the material that was posted on the wiki to write the assignment. Is this cheating?

Yes

No

Why?

Scenario 4

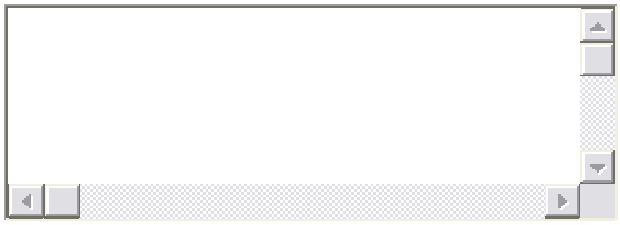
A student posts a comment on a discussion board in the learning management system of a course that they have been taking. S/he is asking for any previous questions that might have been on exams or assignments in other courses within the program. The student is

not asking for the answers to these questions, just the questions themselves. The student feels that they need to focus their attention on actual course requirements and not waste time on material that won't be tested. Is this cheating?

Yes

No

Why?



Appendix D

Recruitment Letter

Title of Project: When Online Student Discussions Become Cheating:
Perceptions of Academic Integrity

Dear Colleagues:

You are invited to participate in a research study conducted by Rudy Peariso, under the supervision of Dr. Cynthia Blodgett of Athabasca University, Alberta, Canada. Rudy is also an employee at Distance Education at XXXXXX. The objective of the research study is to explore the varying perspectives of academic integrity in relation to online learning and the use of Web 2.0 technologies. The study is for a master's thesis. Participation in the survey and/or interview is voluntary and your decision concerning participation will have no impact on your services in Distance Education no one will know that you participated.

If you decide to volunteer, you will be asked to complete a 10-minute online survey. Survey questions focus on your perspectives of online collaboration and academic integrity.At the end of the survey you have the choice of providing your contact information if you are interested in discussing further the topic of academic integrity in relation to online learning and the use of Web 2.0 technologies via four scenarios. The interview should take approximately 20 minutes of your time and can be done by telephone, in person or online. If you prefer not to complete the survey on the web, please contact me and I will make arrangements to provide you another method of participation. Participation in the survey and/or interview is voluntary and your decision concerning participation will have no impact on your services in Distance Education courses and no one in Distance Education will know that you participated. You may decline to answer any questions that you do not wish to answer and you can withdraw your participation at any time by not submitting your responses. There are no known or anticipated risks from participating in this study.

It is important for you to know that any information that you provide will be kept confidential. All of the data will be summarized and no individual could be identified from these summarized results. Furthermore, the survey web site is programmed to collect responses alone and will not collect any information that could potentially identify you (such as machine identifiers). If you choose to participate in an interview, notes or email messages will be securely stored for seven years at the University of XXXX, with identifying information removed. After that time the notes or messages will be confidentially destroyed.

The data, with no personal identifiers, collected from this study will be maintained on a password-protected computer database in a restricted access area of the university. As well, the data will be electronically archived after completion of the study and maintained for seven years and then erased.

Should you have any questions about the study, please contact either
Rudy Peariso rpeariso@xxxx.ca or
Dr. Cynthia Blodgett cynthiablodgett@xxxx.com
Further, if you would like to receive a copy of the results of this study, please contact either investigator.

I would like to assure you that this study has been reviewed and received ethics clearance through the Office of Research Ethics at the University of XXXX. However, the final decision about participation is yours. If you have any comments or concerns resulting from your participation in this study, please feel free to contact Dr.S. Sykes, Director, Office of Research Ethics, at 1-XXX-XXX-XXXX
ext. XXXXX or by email at ssykes@XXXX.ca .

Thank you for considering participation in this study.
Click here <http://XXXXX.ca/> to be taken to XXXX (XXXX.XXXXX.ca) where the faculty survey resides. Be sure to go to the nugget called “Community Groups” to find the Community Group called /Research on Academic Integrity and Collaborative Online Learning/. You will need to log in because it is a secure server, but unless you identify yourself in the survey, your anonymity will be preserved.

Regards,
Rudy Peariso

Appendix E

Student Recruitment in LMS

Hello, my name is Rudy Peariso and I am a Masters of Distance Education student studying at Athabasca University. I am also a staff member at the University of XXXX, working in the distance education department. As part of the requirements for completion of my degree I am required to conduct a research project and present my findings. I would appreciate you taking about 10 minutes of your time to answer some questions about collaborative online learning. If you answer the survey and submit, then you give consent for participation in the study. There is a place in the survey to provide me with your name and contact information should you wish to participate further. If you would like to participate, but don't want to be contacted further, just leave that text box empty. There is no penalty for not participating in the survey!

Thanks!

Appendix F

Email Consent

If you wish to participate in this research study, please provide your consent via email to Rudy Peariso at rpeariso@XXXX.ca. Please include the following statement:

I have read and understood the information contained in the information letter dated xxxxxxx, sent by Rudy Peariso, for the research study called "When online student discussions become cheating: Perceptions of academic integrity", and I agree to participate in this study. I may refuse to answer any question(s).

Appendix G

Code Definitions

Code	Definition	Flags	Qualifications	Examples
blurred lines	make or become unclear or less distinct	not clear	expectations of assignments are not clear for students	even though the line between acceptable and unacceptable behaviour is not clear
broader picture	looking at academic integrity in the broader context of society	cultures	what is acceptable and not acceptable within a society- the academic society, the digital society, social society	"plagiarism has been an obsession in Western cultures since the eighteenth century"
cheating	premeditated attempt to deceive	copy honesty cheating	includes improper citation of work if copied someone's work and call it their own not permissible cheating on tests and exams	"0% honesty active cheating in class through texting"
common practice	the customary, habitual, or expected procedure or way of doing of something	always, common place	well accepted or expected in the particular culture: academic culture, digital native culture etc. exams	"My professor's almost always post previous often with answers"
communication	the process by	internet	includes all	"the technology

method	which knowledge, ideas, beliefs, techniques, and methods are transmitted among individuals by word of mouth, printed media, electronic means, etc.	information sharing	manner of expressing thoughts to others	simply creates a way for people to communicate and share ideas”
comparable	to regard as the same, equal to	equal, same as, no different	Web 2.0 collaboration is the same as face to face collaboration	“same information exchange would occur”
consequences	an act or instance of following something as an effect, result, or outcome	punish consequences	looking at the consequences of cheating or plagiarism	“better tools and clearer consequences”
convenience	anything that saves or simplifies work, adds to one's ease or comfort, etc., as an appliance, utensil, or the like	easier to participate Faster, more efficient	convenience could be for easy use to communicate as well as for purposes of plagiarism, -not looking at it as judgmental, merely as an easy way to do something	“the ease of information sharing”
exposure	the lack of experience that the participant had	not taken have taken	depicts the amount of	“I have not taken a stats course

	with what they perceived as distance education		experience that a person has with the technology, or coursework may mean very little experience with the topic	online”
fairness	treating people equally without favoritism or discrimination and just or appropriate in the circumstances	level the playing field fair rights frank	equals just or justness	“the student cannot be penalized even if there might be reasonable grounds”
friends	one attached to another by affection or esteem	friends, helping	would help out a friend by providing them with materials that may be plagiarized by some definitions	“and friends are just trying to help friends”
help	make it easier or possible for (someone) to do something by offering them one's services or material aid	asking for help, soliciting information	actively seeking help from others	“the student asking his friend should have only asked how do to a certain question, not to obtain the answer”
interpretation	an explanation or way of explaining: this action is open to a number of interpretations	interpret	referring to policies from the institution	“instructors interpret the policies differently”
judgment	the ability to make considered	fairly evident hard to determine	refers to a time when someone	“the line is certainly hard to determine”

	decisions or come to sensible conclusions	difficult to answer, not yes or no	must make a decision about an incident or situation	
knowledge construction	to create (an argument or a sentence, for example) by systematically arranging ideas or terms	adding depth, differing perspectives	looking at the ways in which knowledge is constructed -includes deeper learning	"ideas can be shared, involvement of others learned more"
knowledge gap	Information that is missing -a misunderstanding of what is perceived to be expected and what is actually expected	different expectations not clear about need to understand	circumstances surrounding high school expectations and university expectations that are not congruent	"so many students tell me that it is not clear when taking information off the web"
mixed messages	ambiguous, unclear communication	failure to understand	in regards to communication that is conveyed to others culture of academics and the culture of the business world in regards to competition	"failed to understand the mixed messages we were giving to students"
monitoring	the process of checking whether individuals or firms are actually behaving as they should	to monitor track online collaborations	being watchful to ensure that cheating/plagiarism doesn't occur	"little or no opportunity to monitor for copying and sharing of papers"
moral	an extremely	using uppercase	because the	"other people

outrage	strong reaction of anger, shock, or indignation- an affront to the values upheld by others	letters in a word that in a sentence has both upper and lower case ones when talking about values	interviews are online, important to pay attention to the ways that things are written- uppercase is yelling	taking those assignments/answers, it is most likely NOT cheating"
naive	showing a lack of experience, wisdom, or judgment, natural and unaffected, innocent.	unknowingly assume the workings of technology	not knowledgeable about technological aspects due to lack of experience	"if they truly wanted to get someone elses work, they would ask a friend to email it to them, email is completely untraceable"
originality	the ability to think independently and creatively:	word for word, construct their own	not the use of citations but rather one's own original work	"as the assignment is not to get the information from a website, but to construct their own"
pedagogy	the method and practice of teaching, especially as an academic subject or theoretical concept	redeveloped, interaction between instructor and student pace	refers to the design of the course- interactivity , pacing, feedback	"it may not make the instructor happy but exam questions should be constantly redeveloped by instructors"
privacy	the quality or condition of being secluded from the presence or view of others.	intrusive, open to others' view, privacy	discussions about how open Facebook and other 2.0 technologies can	"the global accessibility of Facebook"

	-the state of being free from unsanctioned intrusion		be visible to the entire world.	
problem solving	find an answer to, explanation for, or means of effectively dealing with (a problem or mystery	enterprising smart	either collaborative or independent, includes technical methods	"after all they were available to any student who was smart enough to do a google search anyways"
policing	control, regulating, keeping in order according to the stated norms of the predominant culture (academic)	catch, caught, guilty, traceable	not including intention	"this would be difficult to catch if not impossible"
policy	a plan or course of action, as of a government, political party, or business, intended to influence and determine decisions, actions, and other matters:	protocols policies guidelines better tools	-refers to the institutions responsibility to have clear expectations for what is allowable and what isn't. ---refers to the "laws" that govern student conduct.	"protocols for addressing cheating"
sanctioned	permitted; allowed	permission did not copy cites material acknowledgements	describes what is allowed in the academic world	"… if the student has used the suggested changes, but incorporated them into his/her work, then it is not really

				plagiarism...”
schema	representation of a plan or theory in the form of an outline or model: a marking scheme or rubric	get an idea of what questions professor may ask each one tests differently	refers to the framework in which the assessment will be graded.	“or get an idea of what questions the professor”
suspicion	a feeling or belief that someone is guilty of an illegal, dishonest, or unpleasant action	suspicion suspected	refers to the condition where situations might not be taken at face value. -need to look deeper than the surface	“I think faculty hall the reason to be suspicious about students’ academic integrity
transparency	frank, obvious, easily seen through	openness, explicitness frank	-being above board, letting others know what is going on -being open and frank about an issue or a process	must be frank and open”
unconcerned	untroubled, or not perturbed about the issue	no issue	thoughts about whether or not there is an issue or concern with this subject	“don’t think there is much of an issue with web 2.0 technologies”
unsanctioned	not allowed - opposite of the allowable or sanctioned not permissible	group, should be individual Used friends answers Identifying sources	what isn’t or shouldn’t be allowed in the academic world these decisions are made by the institution and the discipline/instruct	“it constitutes plagiarism if the instructor does not know about these groups of friends”
values	*values* means	solely use the	important that	“… is fine as

scholarship	something that has worth, is meaningful. *scholarship* is the formalized learning that is taught in schools, esp. as actively employed by a person trying to master some field of knowledge or extend its bounds: high standards of scholarship in history.	information substitution for own work	group work contains people doing further work than just talking to the group	long as students are not using the collaboration as a substitution for doing their own work.”