ABSTRACT

ACADEMIC INTEGRITY IN THE ONLINE ENVIRONMENT: COMPUTER INFORMATION SCIENCE - A CASE STUDY

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Among higher education professionals, there seems to be a general consensus that online education promotes more academic dishonesty than traditional face-to-face classes. Researchers have asserted that the reason for the perception of an online environment as more conducive to academic dishonesty is the lack of direct interaction between students and faculty in web-based courses. Lower levels of academic dishonesty have been attributed by researchers to the personal relationship between faculty and student which fosters an environment of academic integrity focused on intellectual and academic pursuits. Hence, this study explored how a culture of academic integrity can be cultivated online, where distance defines the very relationship between faculty and student.

This study utilized a qualitative approach, specifically a case study method, in order to better understand how an environment of academic integrity can be cultivated for online learning. Data for this research were collected by interviewing full-time faculty in the department of Computer Information Science and students registered in computer classes at a community college during the spring semester of 2010.

During the data analysis phase, three themes emerged. Lack of relationships with peers can increase academic integrity in the online environment; inability to form

relationships with faculty and interact with professors on demand in the online environment can have a negative impact on academic integrity; and appropriate accommodations that have been made for teaching online may actually eliminate the students' abilities to cheat and, as a result, increase academic integrity.

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DEDICATION

This work is dedicated to my family, whose undying support and encouragement enabled me to complete this process

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CHAPTER 1

INTRODUCTION

"A cheater is a fraud, a class of people so despicable that Dante consigned them all to the eighth circle of hell; rated lower even than the murderers who got to live on the seventh circle" (Slatalla, 2009, p. E2). Academic dishonesty has been around as long as there have been students, teachers, and grades. The expression that cheaters never prosper may not be true in academia, where self-admitted cheating is as high as 75.0% with detection rates at 1.3% (Davis, Grover, Becker, & McGregor, 1992). In 1964, Bowers wrote that the problem of academic dishonesty had been underestimated for at least thirty years. In the forty-five years since Bowers's statement, three-quarters of a century of academic misconduct has taken place. If other commentators are to be believed, the introduction of technology has merely exacerbated the problem of academic dishonesty (Clos Bleeker, 2008), so the issue has not only grown sequentially but rather exponentially.

Research over the last seven decades has shown academic dishonesty to be a pervasive issue in higher education. Over time the percentage of students reported by researchers to have engaged in academic dishonest behavior has continued to increase. Drake in 1941 reported a cheating rate of 23% and Goldsen, Rosenberg, Williams, and Suchman (1960) reported rates of 38% and Hetherington and Feldman (1964) and

Baird (1980) reported cheating rates at 64% and 76%, respectively (Baird, 1980; Davis et al., 1992). The current growth in online education raises the question of whether online education, due to its very nature of distance, is adding to the reality of academic dishonesty.

Among higher education professionals, there seems to be a general consensus that online education promotes more academic dishonesty than traditional face-to-face classes (Baron & Crooks, 2005; Carnevale, 1999; Kennedy, Nowak, Raghuraman, Thomas & Davis, 2000). Grijalva, Nowell, and Kerkvliet (2006) proposed that the reason for the perception of online environments as more academically dishonest is the lack of direct interaction between students and faculty in web-based courses. Ridley and Husbands (1998) postulated that the students' remoteness from the instructors afforded the students a better opportunity to turn in work that was not their own. Recent studies indicate that because students are unknown, they could be more likely to have someone participate in their distance education course and take their exams (Baron & Crooks, 2005; Roach, 2001).

The Center for Academic Integrity took a similar position when it stated that online education makes it harder to be sure that the student who got the credit is actually the person who did the work (Carnevale, 1999). Roach (2001) stated that faculty's fears of online education revolve around the anonymity element. There is no bond developed between student and faculty, which is a key factor in mitigating a culture of academic dishonesty and instead instilling a culture of academic integrity (McCabe, Trevino & Butterfield, 2001).

The Higher Education Opportunities Act of 2008, HR 4137, recently signed into law, supports the supposition that cheating is easier in distance education with the inclusion of the statement regarding the need for enforcement of academic dishonesty mitigation in the online environment. "An institution that offers an online program must prove that an enrolled student is the same person who does the work" (Foster, 2008, p. 1). The inclusion of this provision by lawmakers ensures that institutions of higher education must address the issue of academic dishonesty in their online education offerings.

Statement of the Problem

Reports of academic dishonesty have been around for decades. Correspondingly, the research on academic dishonesty has spanned many decades and a multitude of perspectives including why students cheat, how students cheat, the number of students cheating, and how schools should cultivate an environment of academic integrity (Flannigan, 1998). Not surprisingly, recent research (Grijalva et al., 2006; Kennedy et al., 2000) focused on online education has shown that academic dishonesty does exist in this teaching modality similar to traditional courses. To date, research on academic dishonesty and online learning has not addressed the concept of how a culture of academic integrity can be cultivated for this environment, or even what academic integrity means to faculty and students when engaged in teaching and learning in online courses.

Historically, research on academic dishonesty has been aimed at three things: How much academic dishonesty is occurring? Why are students academically dishonest? What are the deterrents that will mitigate or even eliminate academic dishonesty and create an environment of academic integrity? (Bowers, 1964). Academic integrity includes a commitment not to engage in or tolerate acts of academic dishonesty such as falsification, misrepresentation, or deception (Eberly College of Science Academic Integrity, 2004). Deterrents such as school honor codes have been identified as helping to create a culture of academic integrity (McCabe et al., 2001).

Faculty has been identified as the best deterrent to academic dishonesty by creating a classroom environment of honesty, fairness, trust, respect, and responsibility (Aluede et al., 2006; Davis et al., 1992), all necessary elements of an environment of academic integrity as defined by the Center for Academic Integrity (Dodd, 2010). Lower levels of academic dishonesty have been attributed by researchers to the personal relationship between faculty and student, which fosters an environment of academic integrity focused on intellectual and academic pursuits (Bowers, 1964; McCabe et al., 2001). Additionally, faculty and students tend to disagree on not only the severity of academic dishonesty but also on what behaviors constitute cheating (Condon, Hummel, Cox, Calahan, Davis, & Schmidt, 2000; Aluede et al., 2006; Burrus, McGoldrick, & Schuhmann, 2007); therefore, it is necessary that faculty establish clear expectations about learning and model behavior of integrity (Aluede et al., 2006).

To date, research regarding online education and academic dishonesty has been focused predominantly on how much cheating is going on and why cheating is occurring (Grijalva et al., 2006; Kennedy et al., 2000). Unlike traditional classroom research on academic dishonesty (Bower, 1964; McCabe et al., 2001) research on online learning has yet to address the concept of deterrents to academic dishonesty and the cultivation of an environment of academic integrity. Although studies (Baron & Crooks, 2005; Carnevale, 1999) have identified technology-based tools that can detect cheating online, there is a scarcity of literature on deterrents.

Identified elements for an environment of academic integrity have all been ascertained in a traditional classroom setting where teacher and learner are together (Bowers, 1964; McCabe et al., 2001). Online education, by its very nature, occurs in such a circumstance where the educators and the students are geographically separated, and the communication across distance is accomplished by exploiting technology (Rubiales, Steely, Wollner, Richardson, & Smith, 1998). Additionally, research has also identified that students and faculty rarely agree on what constitutes academic dishonesty (Aluede et al., 2006; Burrus et al., 2007; Condon et al., 2000), but there has been a lack of research on whether that disagreement also applies to the concept of academic integrity. How then can a culture of academic integrity be cultivated in the online environment, where distance defines the very relationship between faculty and student and there is no consistent understanding of what constitutes academic integrity? Research is clearly needed regarding this aspect of online learning.

Purpose

The purpose of this study is to understand what academic integrity in the online learning environment means to faculty and students and to gain an understanding of how faculty and students can cultivate an environment of academic integrity in online courses. Academic integrity means honesty and responsibility in scholarship (University of Oklahoma, 2010), where students and faculty are called to a life of ethical conduct through the promotion of a campus culture of trust, honesty, fairness, responsibility, respect, courage, and empathy (Dodd, 2010). Academic integrity is the pursuit of academic endeavors in an environment free of academic dishonesty. Academic dishonesty for purposes of this study includes the following behaviors: (1) copying material and turning it in as original work, including material from a published source, without giving the author credit; (2) turning in work done by someone else; (3) having someone else take a test or represent a different person in online class participation; and (4) giving or receiving unauthorized help on an academic exercise, including a test (Aluede et al., 2006).

Major Research Questions

In order to address the need in the literature for a better understanding of academic integrity in online learning, the following research questions are addressed:

1. What does academic integrity mean to faculty and students in an online learning environment?

2. What characteristics of online education may contribute to academic dishonesty?

3. How can a culture of academic integrity be cultivated by faculty and students in online courses?

Significance of the Study

There are currently over 12 million people engaged in online education (PEQIS, 2007). The flexibility afforded by online education will ensure its continued growth. Critics lament that online education is more likely to foster academic dishonesty and undermine the credibility of institutions of higher learning as well as have a negative impact on the credibility of credits and degrees earned using the online modality (Baron & Crooks, 2005). Research regarding how academic integrity can be cultivated in the online learning environment may be instrumental to lending credibility to courses delivered in this fashion.

Faculty must be able to ensure the environment in which they are teaching is one that is based on and promotes academic integrity (McCabe et al., 2001). How is an environment of academic integrity created and maintained where students are geographically remote? The relationship between faculty and student which has been identified as so instrumental in ensuring academic integrity in the traditional classroom (McCabe et al., 2001) may be much more difficult to create and maintain in a learning environment defined by distance. This study sought to identify how faculty

and students perceived they could contribute to the cultivation of an environment conducive for academic integrity for online learning.

Research has documented that cheating is occurring in online education (Grijalva et al., 2006; Kennedy et al., 2000). Yet unlike studies on academic dishonesty in the traditional classroom (Bower, 1964; McCabe et al., 2001) research on online learning has not expanded to explore the cultivation of an environment of academic integrity. Although the literature (Baron & Crooks, 2005; Carnevale, 1999) has identified technology-based tools that can detect cheating online, however, detecting that students have cheated is not the same as creating a learning environment that deters them from cheating. Thus, this inquiry was intended to contribute to academic integrity literature, specifically providing insight on what characteristics contribute to academic integrity in the online learning environment.

This study also seeks to provide practical information for higher education faculty, particularly those currently teaching in the online environment or those considering offering courses in this modality. Additionally, the data collected in this study may be helpful to instructional technology faculty whose responsibility is to train faculty on developing and modifying their curriculum to the online teaching environment. As online education participation continues to increase, this study could be significant to campuses in the taking proactive steps to ensure the integrity of their online education programs.

The requirement for academic integrity in the online modality has become even more crucial due to the Higher Education Opportunities Act (HEOA) of 2008,

HR 4137. The HEOA has assigned the responsibility of ensuring that schools have an adequate process to establish the identities of the students participating in distance learning to the accrediting bodies. In other words, issues surrounding academic dishonesty in the online environment have been raised to the level where it has an impact on accreditation. Colleges and universities face being sanctioned by various educational accrediting bodies if their process for assuring student identity is not deemed adequate, effectively jeopardizing their distance education programs. Research on how to create an environment of academic integrity in the online environment is now more important than ever; not only at the institutional accreditation level, but to the faculty who deliver education in this format, and ultimately to the students who are earning their credits by participating in distance education. Academic dishonesty may have existed for decades, but the institutional risks have never been higher.

Methodology

This study focused on gaining an in-depth understanding of a specific phenomenon: academic integrity in the online environment. A case study methodology was employed. A case study is unique because it allows the researcher to examine the phenomenon in-depth by focusing on one particular program, a bounded integrated system (Merriam, 2002). Semi-structured interviews were used to gain insight into the experience of faculty and students participating in the online learning environment and their experience and perceptions of academic integrity.

The primary method of data collection was face-to-face interviews, although for some of the student participants an accommodation was made by conducting the interview over the telephone because of their distance from campus. After identifying the participants and obtaining their consent, interviews were audio-taped and transcribed verbatim. Data analysis consisted of identifying common themes across participants.

Definition of Terms

Academic dishonesty: Academic dishonesty is fraud or deceit on an academic assignment which may include copying from others during an exam or on an assignment, communicating examination information either by giving or receiving, allowing others to do your assignment or using a commercial term paper service, impersonation, and collusion (Aluede et al., 2006). As it relates to this study, academic dishonesty is defined as (1) copying material and turning in as original work including material from a published source without giving the author credit; (2) turning in work done by someone else; (3) having someone else take a test or represent a different person in online class participation; and (4) giving or receiving unauthorized help on an academic exercise, including a test (Aluede et al., 2006). Throughout this paper the term *cheating* will be used with regards to incidences of academic dishonesty.

Academic integrity: Academic integrity means honesty and responsibility in scholarship (University of Oklahoma, 2010), where students and faculty are called to a

life of ethical conduct through the promotion of a campus culture of trust, honesty, fairness, responsibility, respect, courage, and empathy (Dodd, 2010). Academic integrity includes a commitment not to engage in or tolerate acts that are academically dishonest such as falsification, misrepresentation, or deception (Eberly College of Science Academic Integrity, 2004). Academic integrity is the absence of academic dishonesty.

Distance education: The process where education of students occurs where the educator and the student are geographically separated, and the communication across the distance is accomplished by utilizing technology (Rubiales et al., 1998).

Online education: Distance education classes that use two-way Internet technologies for course delivery (Howell, Williams & Lindsay, 2003; Kozeracki, 1999). A course is considered online when more than 80% of its content is delivered online (Allen & Seaman, 2003). A course that delivers between 30% and 80% of its content online is considered blended (Allen & Seaman, 2003).

Traditional courses: Classes conducted face to face in a classroom not employing any online technology, with the content delivered in writing or orally (Allen & Seaman, 2003).

Organization of the Study

Chapter 1 provided an overview of the study, including the statement of the problem, the purpose and significance. Chapter 2 reviews the literature regarding academic dishonesty and academic integrity, both from a traditional classroom and

online education delivery format. An examination of individual as well as contextual factors that have been associated with academic dishonesty is also provided in Chapter 2. Applicable theoretical frameworks that have been used to examine academic integrity are discussed in Chapter 2. Chapter 3 provides a discussion of the methodology that was used for this study, specifically a description of the location and program chosen, as well as rationale for the methodology employed. Chapter 3 also provides information on the process used to collect and analyze the data. Chapter 4 presents the findings from the study. Finally, Chapter 5 provides an analysis of the findings and provides implications for policy and practice and recommendation for future research.

CHAPTER 2

REVIEW OF THE LITERATURE

In order to understand how academic integrity can be cultivated in an online modality, it is necessary to understand academic dishonesty. Research on academic dishonesty has spanned many decades and a multitude of perspectives including personality characteristics, why students cheat, how students cheat, the number of students cheating, student reaction to cheating, faculty reaction to cheating, and how schools should cultivate an environment of academic integrity (Flannigan, 1998). This chapter provides a review of empirical research on academic dishonesty examining individual characteristics and contextual factors, both in a traditional setting and online. Additionally, overviews of social learning theory and invitational learning theory are examined as they pertain to academic dishonesty and academic integrity in traditional classroom settings.

Academic Dishonesty

Although there is often disagreement among researchers and discrepancy between institutions regarding what constitutes academic dishonesty, a simple definition is that cheating and plagiarism involve students giving and receiving unauthorized assistance on an academic exercise or receiving credit for work that is

not theirs (Aluede et al., 2006). An expanded definition includes the idea that cheating is an intentional use or attempt to use unauthorized information or study aids in academic exercises and encompasses such activities as fabrication, plagiarism and facilitation. Fabrication is the intentional and unauthorized falsification of any information or citation. Plagiarism is the deliberate adoption or reproduction of ideas or words or statements of another person as one's own. Finally, facilitation means to help or attempt to help another student engage in some form of academic dishonesty (Pavela, 1997).

Specific examples of academic dishonesty involving fraud or deceit on an academic assignment may include copying from others during an exam or on an assignment, communicating examination information either giving or receiving, allowing others to do an assignment or using a commercial term paper service, altering examination answers after an assignment has been completed, and altering grades and resubmitting a written assignment for a new course without permission (Aluede et al., 2006). Additionally, Aluede et al. (2006) note the following behaviors of examination leakage, impersonation, and collusion encompassed academic dishonesty.

Additionally, academic dishonesty is frequently classified by severity, defined by the activity that is associated with accomplishing the cheating. McCabe et al. (2001) in their survey grouped copying from another student on a test, using crib notes during a test, and helping another person cheat on a test into the category of serious test cheater. Serious cheating on a written assignment encompassed plagiarism,

fabricating or falsifying a bibliography, turning in work done by someone else, and copying a few sentences without footnoting them.

Aside from classifying cheating types by severity level, cheating can be grouped by how it occurs and by whom it is done. Hetherington and Feldman (1964) classified cheating behavior into four distinctive groups. The first group is independent/opportunistic cheating, which is basically unplanned cheating that is impulsive; the student saw an opportunity to cheat and engaged in dishonest behavior. The second category is independent/planned, which involves preplanning and activity prior to the actual test situation. The third and fourth classifications are social cheating, which involves two or more people collaborating to cheat. The only difference between category three and four is who initiates the academic dishonesty: active cheating versus passive cheating. Passive cheating is inadvertent, such as overhearing the answers to a test prior to taking the test but not soliciting answers. Grijalva et al. (2006) classify cheating as planned and panic cheating. Planned cheating involves making a conscious decision to cheat knowing, that it is wrong. This type may include creating crib sheets for tests or plagiarizing on a written assignment. Panic cheating, on the other hand, occurs when a student suddenly realizes that the answer is not known on a test and looks around the classroom for help and to see the answer on another student's paper. Planned cheating is frequently viewed as more dishonest (Grijalva et al., 2006).

Faculty and students tend to disagree on the severity of academic dishonesty. Faculty view any variety of cheating as severe, although students tend to see cheating

that they initiate as worse than helping another student to cheat (Condon et al., 2000). Frequently, students are unclear about what behaviors actually constitute academic dishonesty and under what circumstances collaboration is considered cheating (Aluede et al., 2006). Additionally, faculty and students tend to agree on the most severe forms of cheating, which include blatantly copying from someone else's paper or turning in research that is not their own. Students tend, however, to overlook forms of cheating that include plagiarism, bibliographical misrepresentations, working with others on homework even if it has been forbidden, using an old copy of an exam to study and getting questions and answers about an exam from someone who has already taken it (Burrus et al., 2007).

Amount of Academic Dishonesty

The amount of academic dishonesty has been the focus of research for decades. When surveying students for self-reported cheating, Drake in 1941 reported a cheating rate of 23% and Goldsen, Rosenberg, Williams, and Suchman (1960) reported rates of 38% and Hetherington and Feldman (1964) and Baird (1980) reported cheating rates at 64% and 76%, respectively (Baird, 1980; Davis et al., 1992). In 1964, Bowers found that over half the students surveyed at 99 universities and colleges admitted to some form of academic dishonesty. However, the problem was grossly underestimated, as twice as many students cheated as estimated by student-body presidents and the number was triple than what deans thought (Bowers, 1964).

Almost 35 years later, McCabe and Trevino (1997) conducted a follow-up survey of 31 institutions, which included nine of the schools in Bowers's initial study. The 6,096 students attended institutions that were considered academically elite and had an average SAT score of 1240 (Alschuler & Blimling, 1995; Fishbein, 1994; McCabe et al., 2001). Results of the McCabe and Trevino's study found one-third of students admitted to copying from another student during a test, using crib notes, or aiding someone else in cheating. Additionally, over half the students admitted to plagiarizing, falsifying, or using dishonest methods to complete school assignments. Two-thirds of the students admitted to cheating on at least one occasion, although more than two-thirds acknowledged seeing others cheat. Over 95% stated that students would not report cheating when they saw it. Ironically, three-quarters of the students also asserted that cheating is never justified under any circumstances (Alschuler & Blimling, 1995).

Historical Overview

Although a significant amount of research has indicated that cheating is predominantly influenced by contextual factors and situational influences, understanding individual characteristics that researchers have linked to academic dishonesty is important. Frequently, early research on academic dishonesty attempted to identify specific individual characteristics of cheaters by creating situations where students were afforded opportunities to cheat (Campbell, 1933; Hetherington & Feldman, 1964; Parr, 1936).

An early study on academic dishonesty was conducted in 1931 by Campbell, who sought to understand individual factors that contributed to cheating or "college cribbers" at a large state university in the South. The term "cribber" was used to denote a student who was observed cheating on a course exam and those who when asked admitted to cheating. The "cribbers" were spotted by spies who were advanced-level students seated selectively in the classroom. Additionally, Campbell (1933) used the Otis Self-Administering Test of Mental Ability Advanced Form A (Otis Form A), a time-limited test that measures intelligence, to identify deceit and unethical conduct. The Otis Form A was administered to the students and collected and graded, but no indication that they had been graded was apparent on the returned test. The students were then given the test back and told that they were to grade their own test. Forty-five percent of students modified their papers when given the opportunity to grade their own work.

"Cribbers" scored significantly lower on the Otis Form A test than did the noncribbers, leading to Campbell's (1933) finding that cheaters have lower mental level than those who did not cheat. The Otis Form A score was also significantly lower for students who engaged in the unethical behavior of changing their answers. Additionally, course grades as well as overall university grade point average (GPA) was significantly lower for the group identified as cheaters (Campbell, 1933). Ultimately, these findings led to Campbell's assertion that some part of an individual's personality, attitude, and action is aligned with mental ability.

The Bernreuter Personality Inventory was used to understand the personality traits of the "college cribber" (Campbell, 1933). The Bernreuter Personality Inventory provides a measure of the following personality traits: neurotic tendency, dominance/submission, introversion/extroversion, and self-sufficiency. Neurotic tendency was defined as someone who leans on others. Cheaters were found to be significantly more neurotic than noncheaters. Students who were also found to be less self-sufficient were more likely to be cheaters.

Prior to taking either the Bernreuter Personality Inventory or the Otis Form A, the students in Campbell's (1933) study were assured that their performance on the tests would not have an impact on their class grades. Consequently, Campbell asserted that the behavior of cheating must not merely be a function of pressure to perform but also the ease with which cheating can occur (Campbell, 1933). In a later study Parr (1936) asserted that academic dishonesty that has little to no incentive for the individual is the worst type of dishonesty.

In a follow-up to Campbell's (1933) study, Parr (1936) sought to quantify the frequency of cheating that occurs in a typical college classroom as well as to identify the factors associated with this behavior. Parr started with the premise that no one is incorruptible and that given the appropriate incentive, any individual will deviate from what is considered proper behavior. Over a two-year period, 409 students enrolled in Parr's classes took a test at the start of the quarter and then again at the end of the term in order to gain insight into their mastery of the material. Using the same methodology as Campbell (1933) of secretly grading the tests and subsequently

returning them to students to grade, Parr reported a 42% overall rate of dishonesty that was split into 45% for men and 38% for women. Parr theorized that the results were conservative because there was actually no incentive for students to cheat on these tests, as students knew their test grades would have no bearing on their course grade (Parr, 1936).

After measuring the number of students cheating, Parr (1936) sought to understand why they cheated and subsequently administered a questionnaire related to student honesty. Students were asked demographic information about the occupation and salary of their parents; information about their siblings; population of their home town; the size of their high school; their rank in their high-school graduating class; their affiliation with character organizations; their church attendance; their school activities in both high school and college; and the extent to which the student supported themselves economically. In addition, the scholarship rating and psychological rating for each student was ascertained from the unit responsible for that information.

In seeking information regarding family influence on academic dishonesty, Parr (1936) classified parents' occupation into six headings: professional, artisan, merchant, farmer, laborer, and nonvocational. He noted that academic dishonesty increased along the path from professional to nonvocational. Although 30% of students with parents in the professional group were seen as dishonest, the number increased to 64% in the laboring occupations. Parr found no bearing on academic dishonesty based on number of siblings or birth order, which was contradicted by

Hetherington and Feldman's (1964) study which found being the eldest and male contributed to cheating. Relative to size of hometown Parr found 71% of students from the smallest town were found to be dishonest versus 43% from the largest towns.

Factors Associated with Academic Dishonesty

Much of the research of McCabe et al. (2001) on the reasons students cheat has been focused on contextual factors including school honor codes and students' perceptions of the following: peer behavior, faculty's acceptance of academic integrity policies, fear of being reported for cheating, and severity of institutional penalties. However, McCabe et al. have also identified several individual factors for cheating and behaviors associated with cheating, such as rationalization, denial, blaming others, and condemning accusers. Some students even went so far as to say that faculty members are effectively cheating their students by spending more time on researching and publishing than on teaching and preparing for classes. If students feel faculty members are effectively cheating them, then why should the students feel any compunction towards cheating (Fishbein, 1994)? Students are able to rationalize cheating by blaming faculty doing a poor job in the classroom, institutional indifference to cheating, and a society that provides few positive role models for personal integrity (McCabe & Pavela, 2000).

Teachers are blamed for having ineffective deterrents to cheating, hence effectively condoning cheating (Davis et al., 1992). Students also justify cheating by viewing faculty as treating them unfairly by having a course that is too difficult or

appearing indifferent to their own teaching or student learning (Aluede et al., 2006). "Professors deserve to have people cheat--there are too many assignments, unfair tests, and poor teaching" (Alschuler & Blimling, 1995, p. 125). Effectively cheating was considered by many students merely as a way to level the playing field (McCabe et al., 2001).

In terms of the benefits of academic dishonesty identified by students, students claimed the following:

> It [cheating] helps me get better grades, a good job or admission to graduate school. This class is not relevant to what I wish to study; I just have to get through it. Cheating is the best use of my time. My parents would go berserk if I got bad grades. Cheating helps reduce my test anxiety. If I did not cheat, I would be at an unfair disadvantage compared to those who do cheat. (Alschuler & Blimling, 1995, p. 125)

Seeking further refinement of why students are academically dishonest, Baird (1980) asked students to choose from eight options as to the reason they cheat. Thirty-five percent cited competitions for grades, 33% chose insufficient time to study, and 26% chose large work load. Davis et al. (1992) stated that the reason students cheat is to get good grades and that the stress and the pressure to achieve is not fully understood by faculty. However, Baird found that students admitted to more cheating on less important tests such as daily quizzes or unit tests, 45% and 58% respectively, rather than on important tests such as midterms (28.5%) and finals (27.5%). Baird associated this finding with the frequency factor of less important tests and failure by the faculty to monitor as closely while students were engaged in these types of exams.

Burrus et al. (2007) reported 71% of students had seen cheating occur, yet only 20% had seen someone caught cheating. Additionally, Burrus et al. (2007) found that the belief that students would be caught had no significant impact on whether or not students engaged in cheating behavior. However, students who thought that the punishment for cheating would be severe reported less cheating (Burrus et al., 2007).

Research on academic dishonesty has always focused on identifying specific individual characteristics associated with cheating. To date, research has examined the following characteristics with varying degrees of relationship with academic dishonesty: gender, year in school, age, involvement in pursuits outside of school, and test and course grade achievement.

Condon et al. (2000) simplified three reasons that students cheat: first, students need a better grade; second, students to do not have the time to study; and third, they saw an opportunity and took it. Bowers's initial research (1964) also identified pressure and academic obligations as a cause for academic dishonesty. Of students who reported that they were entirely self-supporting in Parr's (1936) study, 53% had been identified as dishonest, compared to 34% of the nonself-supporting students. Students who were partially self-supporting were aligned in the middle at 45%. Parr (1936) concluded that anything that may handicap students or brings pressure on them will result in dishonest behavior.

Classification

Researchers also identified that year in school played a significant role in reasons student cheated (McCabe et al., 2001). First- and second-year students were more likely to cheat than were third- and fourth-year students. The individual factor of being a first- or second-year student was then tied to two contextual factors: attending large lecture courses and being enrolled in elective courses they really did not want to take in the first place. Additionally, Fishebein (1994) placed some of the blame for-first year students cheating on the shoulders of the institution. First-year students, she lamented, are frequently placed in courses beyond their academic ability as a result of their scores on placement exams. These exams are not always an accurate reflection of students' ability; hence, students are forced to cheat merely to survive (Fishbein, 1994).

Leonard and LaBrasseur's (2008) study found the opposite in their 2005 survey of business professors in Canada. Professors of first-year courses reported on average a 71% observation of cheating, but professors of upper level courses reported a rate of 76%. Leonard and LaBrasseur, however, surveyed only faculty about their observations of academic dishonesty on individual assignments, defined as one student copying from another student. Also, they solicited only faculty on their suspicion of student cheating, not actual confirmed incidences of cheating (Leonard & LaBrasseur, 2008).

Parr's (1936) study was conducted on students taking a freshman-level course. There were 70 sophomores in the study, and they did show significantly less cheating

behavior than the freshmen by a ratio of 33% to 44%. Baird's (1980) findings reported that juniors were the least likely to cheat, followed by seniors. Only 2.0% of sophomore students and 5.7% of freshmen said they had never cheated. Clearly the research on year in school varies by study.

The types of cheating behaviors in which students were engaged also related to the students' year in school (Baird, 1980). Sophomores were likely to cheat on unit tests although seniors were likely to have cheated on final exams. Baird attributes some of the lack of cheating by seniors to various other factors, including that the upper-level courses were less amenable to cheating, with essay tests and assignments. Baird also thinks that perhaps seniors adjusted to the demands of college work and did not have the need to resort to cheating; however, he also rationalized that perhaps some of the lower GPA students had dropped out by junior and senior year and that had a positive impact on the cheating rate. Freshmen were least likely to involve someone else in cheating. However, Baird believes that lack of cheating by freshmen was not reflective of a moral position but rather a lack of sophistication and a lack of "skills" needed to engage in dishonesty. Unfortunately, Baird believes that freshmen will become schooled in college methods of cheating, and he outlined this phenomenon as the "contagions" are spread methodologically rather than by moral infections.

Gender

Gender was also seen to have an impact on academic dishonesty. Bowers (1964) finds that coeducational schools have a higher level of cheating than either all-

male or all-female colleges, with all-female institutions having lower rates. Baird (1980) finds that men admitted to more cheating than women as well as cheating on more types of tests and using a greater variety of cheating methods. The difference in the amount of cheating between men and women may be attributed to males having more difficulty with college studies and suffering more from the pressure for grades and fear-of-failure issues (Baird, 1980). Baird also asserts that women disapproved of cheating more than men and were more likely to feel guilty about cheating. Likewise, Condon et al. (2000) indicate that male students employed a greater variety of cheating methods, and that women experienced more remorse after cheating and were more likely to report another student's cheating.

Although men self-report more frequent cheating behaviors than women, within majors, the discrepancy of cheating between genders was not significant (McCabe et al., 2001). More noticeable was the difference of self-reported cheating between women in a traditionally male-dominated major such as engineering (McCabe et al., 2001). For example, cheating in engineering correlated to the student comments on competitive pressures as well as peer pressure. Therefore, it is likely that the amount of cheating reported by women in traditionally male-dominated majors will correspond to their peers in these majors, males, rather than align by gender.

Other Commitments

Students' commitment to activities other than schoolwork has also been identified as impacting academic dishonesty. Research has linked participation in athletics, Greek organization and extracurricular activities as influencing students' decision to cheat (Baird, 1980; Burrus et al., 2007; McCabe et al., 2001; Parr, 1936). Students who participated in athletics self- reported higher frequency of cheating than their peers (McCabe et al., 2001). Parr found cheating rates to be higher for students in fraternities and sororities, but only by 6%. Interestingly enough, Parr did not discover a significant difference of cheating between fraternity men, 47%, and nonfraternity men, 43%. However, women participating in sororities have a significantly higher cheating rate compared to their nonsorority peers, 44% and 33% respectively. A later study also indicated that sorority membership increased incidences of cheating (Hetherington & Feldman, 1964). Burrus et al. (2007) explained that students who participated in Greek organizations and university athletics and who had witnessed other students cheating were more likely to self-report cheating. The findings regarding athletics and Greek organization confirm Bowers's (1964) initial findings that students who value the social aspect of college are more apt to cheat than the students who emphasized intellectual interests. Confirming Bowers's work as well, Baird reports that fraternity and sorority members cheated on more types of tests, employing different methods. Additionally, Baird found that Greek members engaged in more cooperative cheating methods such as copying others' work and taking tests for other people.

The number of extracurricular activities a student participates in has more of an impact on the rate of cheating than does the activity itself (Parr, 1936). Students engaging in only one activity reported cheating rates of 36% compared to 57% for students participating in four or more activities. Parr (1936) concluded that the activities interfered with students' scholastic success and resulted in the usage of dishonest methods to compete in the classroom to compensate. In contrast, Baird (1980) discovered that students engaged in three or more extracurricular activities disapproved of cheating more than their nonparticipatory peers.

Grade Achievement

Students' mental ability as measured by grade achievement has been identified by researchers as playing a significant role in academic dishonesty (Campbell, 1933; Hetherington & Feldman, 1964; Parr, 1936). Similar to Campbell's assertions about mental acumen, Parr (1936) finds that 34% of students who graduated in the top one third of their high school graduating class were far more honest than the 47% who ranked in the middle. Moreover, students who had not received academic delinquency notices during college and were currently not in academic difficulty were more honest (40% and 51%, respectively). Aligning the students' grades in his (Parr, 1936) course to the percentage found to be honest yielded the following finding: A students, 18% dishonest; B students, 35% dishonest; C students, 44% dishonest; and D students, 58% dishonest.

Research has linked students' overall grade performance directly to academic dishonesty. McCabe et al. (2001) reported that students with lower GPAs self-reported more cheating than students with higher GPAs. Burrus et al. (2007) speculate that students with higher GPAs have less to gain and more to lose if caught cheating. Bowers (1964) attributed cheating to lower GPAs as a lack of adjustment by students to their roles as students which requires strong study skills. However, Bowers finds that the popular image of a cheater as a bad student is not necessarily strongly correlated to cheating behavior and academic performance may only have a minor impact. Fishbein (1994) reports that requiring a minimum GPA in courses in a student's major for successful completion may also be exacerbating student's propensity to cheat to attain a certain grade.

Other individual characteristics identified with cheating included laziness, a lack of responsibility, integrity and character, poor self-image, and a basic lack of pride in doing a good job (McCabe et al., 2001). A low level of effort and lack of self-sufficiency were also associated with cheating (Hetherington & Feldman, 1964). Finally, students also cited a cost rationale for cheating: "I see no reason not to cheat. There is little to no chance of getting caught. There is little or no punishment if I did get caught. It doesn't hurt anyone. I'll never need this information" (Alschuler & Blimling, 1995, p. 125).

Contextual Factors Associated with Academic Dishonesty

Research on why people cheat frequently sought to identify specific individual characteristics that predisposed people to engage in academically dishonest behavior. However, Hartshorne and May's (1928) study on grade school students indicated cheating was not an inherent attribute of an individual's personality associated with deceit, but, rather, it was situational (Baird, 1980; Bower, 1964; Hetherington & Feldman, 1964). Situational factors, such as a lack of supervision or a poorly organized class, encourage academic dishonesty. There are many types of cheating behaviors and different situations that encourage or permit different types of cheating. Consequentially, cheating primarily occurs when there is an alignment between opportunity to cheat and a cheating behavior that aligns with a student's personality (Hetherington & Feldman, 1964). Since cheating is actually a function of personality and environment, academic dishonesty must be researched in context. The overall culture of an institution and the policies surrounding infractions of academic dishonesty can impact students' decision to cheat.

Honor Codes

If all cheating is viewed as an alignment of situation and personality, it is important to understand what role the school actually plays in creating a context for academic integrity or dishonesty. The research on institutional factors in the McCabe and Trevino (1993) study included such major contextual variables as the existence of a school honor code, students' knowledge, understanding, and acceptance of their

institutions' academic integrity policy, students' perception on whether cheaters would be reported, and whether there were appropriate penalties for cheating (McCabe et al., 2001). Leonard and LaBrasseur (2008) maintain that an institution's honor code should have three components: first, a clear statement of the expectations about academic honesty for students; second, individually signed student pledges regarding their understanding and adherence to academic honesty behavior; and third, a strong student role in judicial mediation for cheating incidences. McCabe and Trevino found that 54% of students at institutions with honor codes admitted to one or more incidents of cheating, which compared favorably to 71% on campuses with no code (McCabe & Pavela, 2000).

The Center for Academic Integrity is a consortium of over 200 colleges and universities that works to provide policies, procedures, and recommendations on how to combat academic dishonesty. Their study (2000) involved 2100 students at 21 campuses including one community college, seven state universities, and thirteen private institutions. Nine schools did not use honor codes. The major finding of this study was that cheating was more prevalent on campuses with no honor codes (McCabe & Pavela, 2000). Repetitive cheaters, students who admit to more than three incidents of serious test cheating, were 17% on campuses with no honor code, and they were only 6% at small private schools with honor codes (McCabe & Pavela, 2000). One clear benefit of honor codes is that they actively convey to students that academic integrity is an institutional value (McCabe & Pavela, 2000).

Burrus et al. (2007) found that students at schools with an honor code self-reported more cheating: 2.1 incidences of cheating in a prior twelve-month period versus 1.61 at nonhonor-code schools. The authors attributed the higher self-reported cheating rates at honor-code schools to the fact that their students actually know what constitutes cheating and not that there were more incidences of cheating. When students were surveyed again after being given the definition of what constituted cheating, the incidences rose significantly for the nonhonor-code school to 3.5 incidences in the prior 12 months. The percentage of students who reported at least one incidence of cheating was 58.76% at the nonhonor-code school and 40.21 at honor-code schools. This ratio may, however, also be attributed to the idea that students at honor-code institutions are less likely to report cheating because they know what is at stake. Or, an honor code may reduce the probability that students cheat but have no impact on the cheating frequency of students who are predisposed to cheat (Burrus et al., 2007).

Institutions where the responsibility for dealing with cases of academic dishonesty was placed upon the students and their elective representatives fared significantly better in regards to the analysis of the impact of cheating (Bowers, 1964). An honor code is much more effective at mitigating cheating than faculty-controlled systems. Additionally, Bowers (1964) found that the difference that honor systems make in the level of cheating was greater on average than the impact of other variations in schools including size and coeducational environments versus single-gender institutions. McCabe et al. (2001) had similar findings and identified one of

the greatest deterrents to cheating is an institutional culture of academic honesty that is implemented using an honor code. Honor-code schools frequently included such student privileges as unproctored exams, self-scheduled exams, and a student judicial role. Bowers (1964) attributed the honor code impact to the trust that students are allowed under such codes that help them to develop a stronger sense of commitment to institutional academic integrity. Other researchers (Leonard & LaBrasseur, 2008; McCabe & Pavela, 2000) confirm that student involvement in promoting a culture of academic honesty is a requirement to having an institutional culture of academic integrity. Noncheating students often feel disadvantaged by a climate that allows others to succeed unfairly. Student input on integrity policies is appropriate, as is ensuring student participation on judicial review boards for alleged academic misconduct (Alschuler & Blimling, 1995).

Peer Influence

In several research studies, the variable found to have the biggest impact on academic dishonesty was peer behavior (Bowers, 1964; McCabe et al., 2001). Bowers postulates that students who perceive that their peers disapprove of cheating are less likely to engage in academic dishonesty. Peer normative constraints have a stronger impact on cheating behavior than do personal value-orientations (Bowers, 1964). Similar to Bowers's initial findings on peers and cheating behavior, McCabe and Trevino report that academic dishonesty was a learned behavior from observing peers (McCabe et al., 2001).

In seeking student input on why academic misconduct is so pervasive, researchers have identified the peer factor as supporting cheating: "Everyone else is doing it. I see others cheating." "Others urge me to cheat. I would be considered odd if I did not cheat" (Alschuler & Blimling, 1995, p. 125). Bowers (1964) concluded that the "everyone factor" is not just students' close peers but is actually aligned with the entire institutional climate: peers in the broad aspect.

Faculty Influence

Faculty can be the best deterrent to academic dishonesty by creating a classroom environment of honesty, fairness, trust, respect, and responsibility. Students expect faculty to establish clear expectations about learning and model behavior of integrity (Aluede et al., 2006). Similar to Bowers (1964), McCabe and Trevino (1993) determined that cheating tended to be more prevalent on larger campuses. At smaller schools, there is often a more personal relationship between faculty and student that makes the reality of cheating more difficult (McCabe et al., 2001). Likewise, Davis et al. (1992) found that the percentage of students who reported cheating at small private colleges was significantly lower than their counterparts at large institutions, both public and private.

Faculty cannot only create a culture of integrity in their classrooms, but they can also take practical steps to dissuade cheating. For instance, faculty frequently need to remind students that cheating will not be tolerated (i.e., on the first day of the semester, prior to any exam, when assigning written papers, and even for lab work).

Using essay questions as opposed to multiple choice tests or using multiple versions of tests sends a clear message to students regarding expectations of academic integrity (Alschuler & Blimling, 1995). Other deterrents include having proctors in the room during exams and assigning seats for testing other than where the student usually sits. Students taking tests in large lecture halls should be required to show photo identification before being given an exam. Establishing the identity of test takers is appropriate and eliminates the possibility of stooge test takers (Alschuler & Blimling, 1995).

Academic Dishonesty in Online Education

When evaluating the issue of academic dishonesty in an online environment, it is important to understand what the term *online education* means. The concept of distance education and learning has its origins in the late 1800s in the United States, when such institutions as the University of Chicago, University of Wisconsin, and Pennsylvania State University began to offer correspondence programs by mail. These correspondence courses utilized the U.S. postal system and delivered learning materials directly to the student's home. There was almost no interaction with an instructor (Miller, 2001; Stanton, Floyd, & Autman, 1995). The goals of many of these programs were to address the learning needs of people living in rural areas (Miller, 2001).

Moving forward one hundred years, distance education has changed and now is technology based. Rubiales et al. (1998) define distance learning as the process

where the education of students occurs in such a circumstance where the educator and the student are geographically separated and the communication across this distance is accomplished by exploiting such technology as television and computers. In the last 20 years, ubiquitous access to personal computers and the Internet has transformed distance learning into online education (Howell et al., 2003; Kozeracki, 1999). Technology includes learning management system with 24 hours, 7 days per week availability for the learner as well as the instructors. Educational material ranges from simple references to articles to multi-media presentations (Stumpf, McCrimon, & Davis, 2005). Allen and Seaman (2003) defined online learning when more than 80% of content is delivered online. Typically, online courses do not have any face-to-face meetings. A traditional course, on the other hand, does not employ any online technology, and the content is delivered in writing or verbally. For purposes of this study, a web-facilitated course which uses web-based technology to enhance a face-to-face course was denoted as a traditional course.

Academic Dishonesty and Technology

Technology introduces a completely different aspect to the practice of academic dishonesty. Etter, Cramer, and Finn (2006), using a focus group, identified 24 behaviors that students believed constituted unethical academic behavior using technology. These behaviors ranged from what students rated as severe: buying a paper online and submitting as your own to using various character spacing, line spacing, and increasing margin sizes in word processing to increase the overall length

of a paper. Other identified items included copying and pasting an essay from the Internet and submitting as their own; copying a friend's file from a disk and submitting as their own; claiming to have attached an assignment to an e-mail in order to buy themselves more time for an assignment; instant messaging with other students while taking an exam online; receiving an e-mail from friends regarding the questions on an exams they just took or vice a versa; including websites in the reference sections of a paper that were not actually used or actually constructing a paper using various websites and not acknowledging their use; and using chat rooms to solicit answers to homework assignments. If students were not confused before about what constituted cheating (Aluede et al., 2006), lists of this nature can only compound the confusion.

Several of these identified behaviors seem just as likely to occur without technology. Etter et al. (2006) posit that some of these behaviors may be old types of academic dishonesty that have been renewed with technology. Specifically, Etter et al. (2006) identify that for six of the behaviors, technology only facilitated the exchange or transfer of such information as copying and pasting an essay from the Internet; copying another student's assignment; and receiving an e-mail from a friend on exam questions. However, for three items academic dishonesty would have been impossible without the use of technology. These include instant messaging while taking a computerized exam, using a website to format a bibliography, and using free Internet software to complete an assignment.

Research studies on academic dishonesty in an online environment have shown cheating does exist as it does in traditional courses. In a study comparing the reality of

cheating by online students compared to traditional class students, Grijalva et al. (2006) surveyed students enrolled in undergraduate web-based courses for fall 2001, as well as students enrolled in traditional classes. Over 1,840 online students were surveyed, with 796 providing complete answers. Correspondingly, the in-person survey was conducted in four classes. The results determined that there was no disparity in cheating behavior reported in the traditional class versus the respondents of the online survey.

In an effort to align academic integrity and academic rigor in online education, Ridley and Husbands (1998) conducted a study focused on equity of learning standards between online and traditional classes. Ridley and Husbands hypothesized that students enrolled in both traditional lecture classes and online courses would develop a better grade-point average in the online classes because the ease of cheating and because the lack of academic rigor in an online class would correlate to better grades. Additionally, the GPA for students' online courses would improve over time as their ability to cheat matured. In their study of 100 students between fall 1994 and fall 1997, Ridley and Husbands sought to prove or disprove the existence of equal academic rigor and integrity for traditional and online courses using the recognized standard for academic achievement, grades. By comparing the same student's achievement in both traditional courses and online courses, they sought a result favoring the online courses.

Ironically enough, the exact opposite was found to be true, with grades in the online environment lower by 0.3 points on a 4-point scale (Ridley & Husbands, 1998).

Additionally, there were more grades of F given in the online courses versus the traditional classes. Ridley and Husbands (1998) also found that over time the grades in online courses did not show significant improvement. Hence, based on these results, Ridley and Husbands concluded that concerns regarding academic integrity in the online environment were simply overstated.

Perceptions about the ease of cheating online still abound. For example, Kennedy et al. (2000) found that faculty and students believed it was easier to cheat online. Their study of 127 students and 69 faculty members also looked at the type, rate, and methodology of cheating. Additionally, questions were asked about whether the participant had taken online courses; whether or not they believed cheating was easier in an online course; and what methods they had employed to cheat online.

The faculty was asked whether or not they had taught in an online format; whether or not they thought cheating was easier in online courses; what methods would be used to cheat online; and what tactics they would use to counteract cheating in the online courses. The biggest fear from the faculty perspective was that someone else would complete assignments in an online course rather than the enrolled student. Additionally, the instructors believed students would download papers from the Internet (Kennedy et al., 2000).

Both the faculty and students perceived that it would be easier to cheat in online courses. Students who had not participated in online education were more likely to believe it would be easier to cheat than students who had actually taken a class in an online format. Faculty who had taught online did not believe that it was

easier for students to cheat online. One dismaying note raised by Kennedy et al. (2000) is that perhaps students believe that it is so easy to cheat in general that modality of course delivery does not matter.

Mitigation of Academic Dishonesty Online

There are researchers who purport that the frequency of cheating in an online environment is actually less than in the traditional space because the mechanisms to detect cheating are more readily available. Cheating occurs when opportunities to cheat are available, surveillance can be avoided, chances for success have been improved, and the risk of punishment is low (Etter et al., 2006). The effective mitigation of cheating online is relying on the ability to detect cheating.

Faculty have identified a mechanism to reduce cheating in the online modality is to require supervised on-site test taking (Baron & Crooks, 2005). Students participating in distance education are required to go to local testing centers in order to be monitored while taking exams. Although indentified as a reliable way to ensure the person getting credit for the exam is actually the student enrolled in the course and not receiving unauthorized assistance during exams, the requirement for on-site proctored exams negates a key benefit of distance education: that of any-time-any-place learning. Additionally, testing centers usually require the payment of a fee.

An alternative to on-site test taking is to have web camera surveillance for students while participating in distance education. A device currently being tested by the University of Alabama allows for the surveillance of students and includes a

microphone and a 360-degree enabled camera for a complete scan of the environment surrounding the students (Foster, 2008). The benefit of a 360-degree camera is to ensure that there are no other people providing unauthorized help to students during exams. Remote proctors can view and listen to as many as 50 students simultaneously. These proctors can halt students in the middle of tests if they believe the students are engaged in suspicious activity. Students are required to use the web cam at all times when engaged in distance learning, ensuring that the course work is being consistently accomplished by the enrolled student (Foster, 2008).

A new technology for the detection of cheating in the online environment involves the use of challenge questions of publicly available information. As students participate in distance learning activities, they are randomly prompted to answer questions. These questions are formulated from a database of publicly available information and include such components as prior addresses and phone numbers. Students who are unable to correctly validate themselves are identified as stooge participants (Acxiom, 2009).

Although the growth of plagiarism has been attributed to advances in technology as well as the pervasive access to technology (Baron & Crooks, 2005), technology solutions for detecting plagiarism have grown correspondingly. Many faculty use verification software for submitted work to address plagiarism concerns (Kennedy et al., 2000). Additionally, there are commercial services that provide anti-plagiarism functions, comparing students' submitted papers against a data warehouse of works from classes, universities, and the Internet. Internet search engines can also

be used to detect suspected plagiarism merely by searching for key phrases from the paper (Baron & Crooks, 2005).

Biometric technology has also been suggested as a mechanism to detect cheating in the online environment. Biometrics includes fingerprint analysis, face recognition, voice recognition, and iris scanning (Baron & Crooks, 2005). The use of any of these biometric components is a way to ensure students participating in distance learning are who they say they are; however, it is a costly one. Similarly, but less expensive and less reliable than biometrics, is the concept of keystroke recognition. Students participating in distance education are required prior to course onset to provide a baseline of typing patterns. Technology is then used to identify if the person doing the course work is actually the same as the person registered by comparing typing cadence (Foster, 2008).

One of the best detections of academic dishonesty in the online environment stems directly from the methodology of course delivery. The benefit of online education is that all communication is in writing, affording instructors an intimate knowledge of students' written work. Online class participation is accomplished through synchronous or asynchronous chats, and faculty has ready access and experience with students' written style, long before actual written assignments are turned in (Baron & Crooks, 2005). Knowledge of students' writing style can prove to be advantageous in identifying stooge participants (Baron & Crooks, 2006). Carnevale (1999) suggested that faculty engaged in online teaching combat plagiarism

merely by having students start the semester by writing a paper on a mundane topic to gain a baseline of their students' writing styles.

Frequently the class size for online education courses is limited to twenty-five students. Limited enrollment ensures the faculty member has the ability to know their students' abilities, including writing style and to some extent critical thinking (Roach, 2001). A high degree of interaction between faculty and student, even in a distance education course, can combat the anonymity factor and academic dishonesty. Roach (2001) suggests that stooge participants can be eliminated by faculty periodically phoning students throughout the semester and asking them about topics in the class. Baron and Crooks (2005) suggest that teaching assistants be assigned to each student participating in distance learning with the responsibility of developing a relationship with these students and an intimate knowledge of their work.

When comparing the deterrents to academic dishonesty identified for traditional classes, honor codes, faculty and student relationships (McCabe et al., 2001) and those proposed for the online environment, biometric technology, plagiarism detection software, and web cameras (Acxiom, 2009; Baron & Crooks, 2005; Carevale, 1999; Foster, 2008; Kennedy et al., 2000), there are clearly major differences between them. The solutions for the online environment focus on either detection after the cheating has already occurred or the threat of detection as the primary deterrents against academic dishonesty. In contrast, honor codes and faculty and student relationships appear as proactive methods to create a desirable learning environment. Web cameras and biometric technology convey the perception that

students are expected to cheat, and, therefore, faculty have set up mechanisms to catch them at it. Having a culture of detection may negatively influence faculty/student relationships. Therefore, factors that promote a culture of academic integrity must be identified for use in online environments.

Applicable Learning Theories

In order to understand the contextual element of academic integrity, it helps to align the environment with various theories regarding how a culture of dishonesty or integrity is actually cultivated. Traditional classroom research on academic dishonesty has identified social learning theory as an effective model, specifically Bandura's (1977) model. This section will examine how social learning theory pertains to the creation of an environment of academic integrity or dishonesty in a traditional classroom setting. Additionally, this section will also examine invitational education and explore its applicability to the cultivation of academic integrity in an online learning environment.

Social Learning Theory

Social learning theory or social cognitive learning theory combines elements from both advocates of behaviorism and cognition theory and states that people learn by observing others in a social setting. Researchers have indicated that academic dishonesty is actually a learned behavior (Bowers, 1964; McCabe et al., 2001). Students who see other students cheating are more apt to engage in cheating behavior. Observation allows for knowledge of rules, skills, strategies, beliefs, and attitudes

(Merriam, Caffarella, & Baumgartner, 2007). Concepts of academic integrity fall in this arena. In seeking student input on why academic misconduct was so pervasive, McCabe et al. classified the peer factor supportive norms for cheating: "Everyone else is doing it. I see others cheating." " Others urge me to cheat. I would be considered odd if I did not cheat" (Alschuler & Blimling, 1995, p. 125). Therefore, students have not only witnessed strategies employed for effective cheating, but they also aligned their personal beliefs with the classroom culture of dishonesty.

Bandura (1977) further expanded social learning theory to include self-regulation whereby people modify their own behavior based on what they visualize the expected outcome to be (Merriam et al., 2007). Humans can be motivated by anticipating prospective consequences (Bandura, 1977). Therefore, if people believe they will be more successful when measured by grade achievement, in a learning situation, they are more apt to resort to cheating. Additionally, if students see the punishment for cheating to be nonexistent or minimal this will re-enforce a culture of academic dishonesty. Effectively, a culture of academic dishonesty or integrity is learned as part of a student's college experience.

Not only do people learn about the appropriateness of behaviors by observing others, but they also learn about the consequences. People then select courses of action based on what they view as the likely outcome (Merriam et. al., 2007). Many of the comments provided by students regarding deterrents to cheating included the importance of a culture of integrity, a supportive environment, the threat of severe

punishments, the existence of clear rules for what is acceptable behavior, faculty monitoring, and the likelihood of being caught (McCabe et al., 2001).

Social learning theory has been applied to academic dishonesty and its corollary, creating an environment of academic integrity in the traditional classroom. McCabe and Trevino's (1993) research identified social learning theory as a key component to academic dishonesty in the form of peer behavior. Additionally, they identified social learning as a mechanism for creating a culture of academic integrity. The use of honor codes is a prime example of attempting to create a climate of academic integrity by using social learning theory. Researchers (Fishbein 1994; McCabe et al., 2001) stress that an academic integrity code which identifies increasing sanctions with the severity of cheating and number of instances is a must for colleges. In addition, suspension and expulsion should be included as options. Involving students in the judicial mediation for cheating incidences is not only a practical application of social learning theory but also helps instill a culture of academic integrity for the institution.

What about students taking courses through online education? Participants in online learning never actually observe their peers as most learning takes place in a remote location. How then can a culture of academic integrity be cultivated online? This study explored the cultivation of academic integrity in an online environment.

Invitational Education Theory

A different theoretical model which might be useful in understanding the creation of an environment of academic integrity in online classrooms is invitational education. Invitational education began over 25 years ago and is a systematic way of describing communication in a school environment that results in student learning (Cain, 2008). Invitational education is not only a theoretical framework, but it also has practical strategies. The theory focuses on understanding communication patterns that exist in every human environment and how communicating caring and appropriate messages that bring forth the best in how human potential is attained (Stanley, Juhnke, & Purkey, 2004). An important element in academic integrity is students' relationships with faculty; the ability of faculty to foster these relationships even without face-to-face interaction is exceedingly important.

The four basic tenets of invitational theory include respect, trust, optimism, and intentionality. In combination, these four elements are used to create and maintain the desired academic environment. Respect assumes that everyone is valuable, thus creating a climate that encourages students' positive investment in school. Trust encompasses working together cooperatively and collaboratively so that the process of learning is just as important as the outcome. Students who trust teachers are more likely to work together to create the desired environment. Optimism focuses on attempting to tap the potential of people in their endeavors. Finally, intentionality addresses the creation and maintaining of welcoming places, policies, processes, and programs (Stanley et al., 2004).

Invitational education theory was intended as a guiding philosophy for making schools a more exciting, satisfying, and enriching experience for everyone, including students and faculty (Stanley et al., 2004). This theory seeks to encourage positive development and high expectations; all elements are important for an environment of academic integrity. However, it is not clear if this theory is applicable to the creation of an environment online.

There are five important factors in invitational education theory-- people, place, policies, programs and processes-- known as the 5 Ps. The first P addresses the people aspect. One of the most powerful indicators of student achievement is the relationship among people. If everyone participates in developing a culture of academic success, everyone feels ownership of the process (Stanley et al., 2004). Students who have good relationships with their teachers value their education more highly than those with poor relationships (Stanley et al., 2004). The second P is about place, or the physical environment where learning takes place. The environment must be one in which people want to learn, with a focus on aesthetics, functionality, and efficiency (Stanley et al., 2004). In terms of the online aesthetics, functional and efficient components can all be replicated. The third P, policies, refers to the rules and regulations that influence the daily functions of the educational environment (Stanley et al., 2004). Policies are the mechanism by which the message about the value, ability, and self-directedness of participants is conveyed. Policies need to be inclusive and fairly applied (Stanley et al., 2004). The fourth P is for programs. Programs, similar to policies, must not be discriminatory or elitist. The final P stands for

processes, which defines the way the other four Ps function. Processes should be collaborative and cooperative, with continuous communication between students and teachers (Stanley et al., 2004).

Conceptual Framework for Academic Integrity Online

The conceptual framework for this study, depicted as Figure 1, was developed using the basic tenets of invitational education theory (Stanley et al., 2004) and the corresponding factors of the 5 Ps (Stanley et al., 2004). The application of the four basic tenets of invitational education theory: respect, optimism, trust, and intentionality and the five Ps: people, place, policies, programs and processes, are all elements of a framework that can work to create a culture in a learning environment (Stanley et al., 2004). Invitational education theory was chosen as a basis for this study primarily because of the alignment of the four basic tenets of invitational education theory and the five fundamental values identified as necessary for an environment of academic integrity: honesty, trust, fairness, respect, and responsibility as defined by the Center for Academic Integrity (Dodd, 2010). Additionally, the basis of invitational education is about the creation of a desired learning environment, in this case academic integrity. The question remaining is whether the basic tenets and 5Ps are actually applicable to the online learning environment.

The model starts with the alignment of the elements of invitational education: respect, honesty, optimism and intentionality and the values of academic integrity: honesty, trust, fairness, respect, and responsibility (Dodd, 2010). The concept of

respect focuses on ensuring that students feel valued in the learning process and correspondingly invest in their learning. Trust addresses relationships that exist in a learning setting, particularly between faculty and student. Optimism entails the need to engage all learners so that they can reach their educational goals. Intentionality addresses the actual logistics of teaching and learning, the place, the policies, the processes and the programs (Stanley et al., 2004).

Additionally, the model depicts the 5 Ps, people, place, policies, programs and processes of invitation education theory (Stanley et al., 2004) as applied to the online learning environment. The education now occurs at a distance, as represented by the cloud. Students are no longer together as a single entity of a class but are rather individuals in separate locations. The communication between the students and the faculty is depicted as bi-directional arrows, showing that all interaction is two-way. However, the communication between students is represented by dotted lines indicating that this communication may or may not actually occur.

Finally, the model represents the desired learning environment of academic integrity as a star. The elements of academic integrity, honesty, trust, fairness, respect, and responsibility (Dodd, 2010) are depicted within the star as existing in that context. The intent of the model is to ascertain if the application of the 5Ps in the online learning environment can be used to create the desired learning environment of academic integrity.

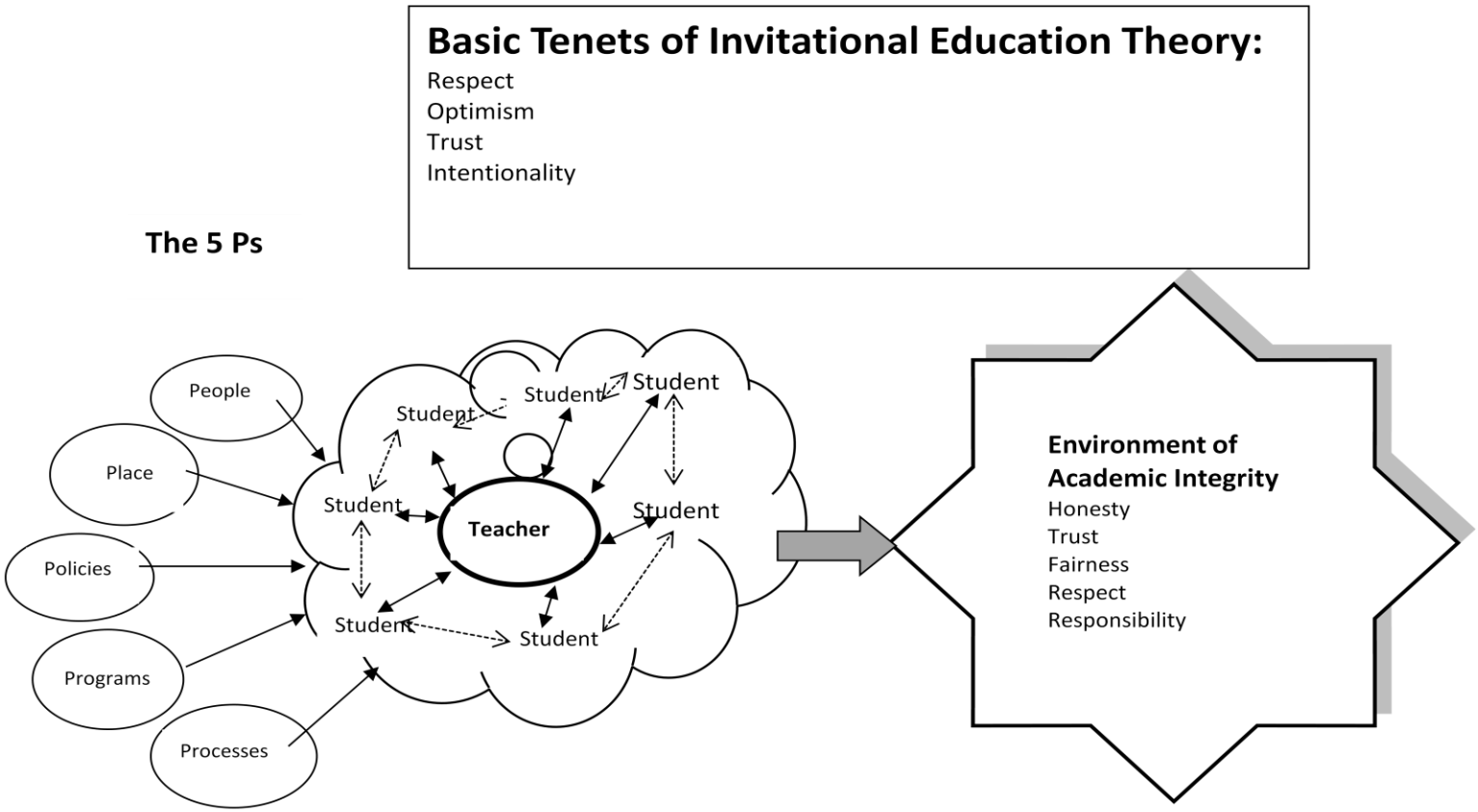

Figure 1. Conceptual Framework - Invitational Education in the Online Environment

CHAPTER 3

METHODOLOGY

This study explored how faculty and students can cultivate an environment of academic integrity in the online environment. The study sought to answer the following research questions:

1. What does academic integrity mean to faculty and students in an online learning environment?

2. What characteristics of online education may contribute to academic dishonesty?

3. How can a culture of academic integrity be cultivated by faculty and students in online courses?

This chapter discusses the research procedure and the rational for the research methodology. Specifically, researcher bias and the setting are discussed. Data collection and analysis processes are described. A discussion of trustworthiness and limitations of the study conclude the chapter.

Rationale for Methodology

Merriam (2002) defines qualitative research as "an effort to understand situations in their uniqueness as part of a particular context and the interactions there"

(p. 5). Further expansion of the definition includes that the goal of qualitative research is to gain an understanding of the nature of the setting, what it means to participants to be in that setting, and what is going on for participants (Merriam, 2002). As such, a qualitative research design was the appropriate method to address the research questions.

This study focused on gaining an in-depth understanding of a specific phenomenon: academic integrity in the online environment. A case study methodology was employed. A case study is unique, as it allows the researcher to examine the phenomenon in-depth by focusing on one particular program, a bounded integrated system (Merriam, 2002). Stake (1995) states that the case study is expected to catch the complexity of a single case, where the case itself is of special interest and the details of interaction within its contexts are examined. Ultimately, "a case study is the study of the particularity and complexities of a single case, coming to understand its activity within important circumstances" (Stake, 1995, p. xi). In this case the particularity was academic integrity as it manifests in the online environment.

The benefit of the case study approach is that it focuses on the interactions of the participants (Stake, 1995). Accordingly, interaction between faculty and students was identified as a key component to the existence to a culture of academic integrity (Bowers, 1964; McCabe et al., 2001). Lower levels of cheating have been attributed by researchers to the personal relationship between faculty and student which fosters an environment of academic integrity focused on intellectual and academic pursuits (Bowers, 1964; McCabe et al., 2001).

A qualitative case study has three important components. First, it is particularistic, focusing on a particular situation or phenomenon, in this case academic integrity. Second, a case study is descriptive. This research provides a rich description of both faculty and student understanding of academic dishonesty and what factors contribute to an environment of academic integrity for online learning. Finally, a case study is heuristic, illuminating a reader's understanding of the phenomenon under study (Merriam & Simpson, 2000).

Case studies are frequently employed within education, where the people and the programs are what are of interest (Stake, 1995). The researcher in this context seeks to gain an understanding of how the participants function in their ordinary pursuits within this bounded system (Stake, 1995). A case study is used to gain a general understanding of a research topic that is studied by gaining insight into the issue by focusing on a particular case. The use of a case study is frequently used to gain an understanding of something else (Stake, 1995). In this case the goal was to understand academic integrity online by studying a particular population of participants in the learning process. The benefit of a case study approach to research comes not in the generalization of knowledge but rather in the particularization, the coming to know a case well and what it does. The uniqueness of the case in turn provides insight and implies knowledge about other situations (Stake, 1995).

A case study allows the researcher to gather in-depth data about a particular program (Merriam, 2002). Since the concept of academic integrity in the online learning environment has yet to be studied, the case study approach to gather data

allowed participants to provide input on the phenomenon. The experience of faculty and students participating in teaching and learning, respectively, in an online modality was gathered from a specific case study of faculty and students in a computer science program.

Researcher Bias

There are always biases that can surface during the research process when the researcher is also the interviewer; these biases can affect the findings (Merriam, 2002). Much of the cheating detection options offered for the online environment rely on technologies that most technologists would deem intrusive, including cameras in the home, biometrics, and randomized querying of students with challenge questions. As an information technology professional who is ultimately responsible for identifying, implementing, and supporting cheating detection solutions for online education, this researcher understood the potential for researcher bias. It is the belief of the researcher that the identification of methods to cultivate an environment of academic integrity in the online environment could alleviate the need for some of the more invasive technologies that are offered as solutions to online cheating.

There is the possibility that researchers will find what they are looking for by employing selective attention to details and selective interpretation of data (Merriam, 2002). In order to mitigate researcher bias, all data analysis and interpretation was vetted through the researcher's doctoral committee, as well as peer doctoral students (Merriam, 2002). Additionally, in Chapter 2, the theoretical framework of invitational

education was outlined. During the analysis process, identified themes were aligned and cross checked within this theoretical framework. Alignment of themes within the framework helps to assure that a consistent analysis is employed across the various interviews (Baber, 2007) helping to mitigate potential researcher bias.

In order to assure that the researcher's selection of faculty for interviewing was not biased toward like-minded technologists, who are dismayed at technology-based cheating detection solutions, faculty interviewees were all full-time faculty in the Computer Information Science (CIS) program at one institution. This assured sufficient variety in experience. Additionally, all students interviewed were volunteers solicited by the faculty. This randomization eliminated any researcher biases associated with participant selection. A semi-structured interview was conducted with all faculty and student volunteers. By using pre-defined questions that had been approved by the researcher's doctoral committee any IT professional biases were eliminated from the questions, including any researcher bias towards technology-based cheating detection solutions.

Finally, as this research was conducted at the researcher's place of employment, there was the risk of bias pertaining to familiarity. However, the researcher's role at the institution is not in direct support of educational delivery, academic affairs, or even student classroom interactions, so there was minimal bias introduced through this aspect of the research.

Setting of the Study

This study took place at a large community college located in the northwest suburbs of Chicago. The community college system was chosen because these institutions currently have a greater offering of online courses (Illinois Virtual Campus, 2008). Specifically, in summer 2008, community colleges in Illinois offered 2,993 sections of online courses serving over 41,000 students. Their four-year public university peers only offered 797 online courses serving 15,000 students (Illinois Virtual Campus, 2008). The institution chosen for this study has a population of approximately 26,000 students in degree credit programs and over 144 sections of online courses. For spring semester 2010, there were over 2,280 students enrolled in online courses, approximately 9% of students. Additionally in 2005, this institution received full accreditation by the Higher Learning Commission to offer all degrees in the online modality.

The institution does not employ an honor code. Academic honesty is addressed with a policy statement in the student handbook of policies and procedures. This statement identifies cheating, plagiarism, and falsifying records as forms of academic dishonesty. Faculty address issues of academic dishonesty with the option of reporting to the judicial office at their discretion.

This case study focused on the CIS program at this institution. For fall 2009 the CIS program offered 171 classes, of which 74 were completely online, 34 were traditional, and 63 courses were blended. CIS is comprised of seven full-time faculty who either currently teach or have recently taught both traditional classroom courses

as well as online courses. The CIS program was chosen for many reasons, but the primary reason is the inherent culture of sharing in computer science. Open-source software, freeware, and shareware are common terms in the technology industry which stem from the premise that research that is publicly funded should be available to the public and should be free to access (Read, 2008). In 1985, the Free Software Foundation (FSF) was formed. The FSF espouses four freedoms for software: "run the program, for any purpose, study the program and adapt it to your needs, redistribute copies so you can help your neighbor, and improve the program and release your improvements to the public so that the whole community benefits" (Tavani, 2007, p. 245). The Open Source Initiative (OSI), started in 1988, also has a similar free access goal "software for the user to look at, understand, modify and redistribute the source code" (Tavani, 2007, p. 246).

The concepts of shareware and freeware by their very nature are inherently academically dishonest, which for the purposes of this study included the following behaviors: giving and receiving unauthorized assistance on academic exercises including intentional use or attempt to use unauthorized information or study aids; receiving credit for work that is not the student's, including plagiarism, which is the deliberate adoption or reproduction of ideas or words or statements of another person as one's own, as well as examination leakage, impersonation, and collusion (Aluede et al., 2006). The concepts of shareware, run programs for any purpose including school assignments, are in direct alignment with academic dishonesty. The tenets of freeware include adapting programs to your needs, assuming authorship of programs and

sharing your updates with the community so it can benefit. Shareware effectively has no owner and is owned by everyone. It is easy to see how a student of technology would be confounded by the concepts of open source and academic integrity. Technology faculty will also be challenged to reconcile their own beliefs regarding shareware and cheating. With an underlying culture of sharing and freeware having an impact on the concept of academic dishonesty, the CIS program provided an interesting case study for the cultivation of academic integrity in the online environment.

Participant Selection

Since this study was primarily interested in how an environment of academic integrity can be cultivated online, it was important to understand how faculty see this challenge as different in the online environment versus the traditional classroom. Clearly the modality of course delivery between traditional and online courses is very different. What do faculty view as the impact of online learning on academic integrity? Do faculty perceive any difference in the student faculty relationships online which has been identified as a factor in academic integrity in the traditional classroom setting? Seven full-time faculty in the CIS program who have taught in both traditional face to face courses and online classes were interviewed.

Additionally, since faculty and students tend to disagree on the severity of academic dishonesty (Condon et al., 2000) and what behaviors actually constitute academic dishonesty (Aluede et al., 2006), students' perspectives on the academic

integrity online were also collected. Student participants had taken classes in both the online venue as well as traditional classroom within the last two years. Pseudonyms were assigned to all participants to protect their confidentiality.

Data Collection

Prior to beginning data collection, the researcher obtained approval from the Institutional Review Board (IRB) from the institution where the researcher is enrolled as a student. The community college selected for this study does not have a formal IRB permission procedure; therefore, permission was sought from the Director of Institutional Research prior to conducting the research. Authorization was also obtained from the Dean and Associate Dean of Business and Social Science and the Coordinator of the CIS department.

In order to initiate the process for data collection, the Associate Dean for Business and Social Science was contacted by telephone; permission was also sought to contact CIS faculty members about their willingness to participate in this effort. The departmental coordinator of CIS was also contacted via telephone to gain her support for this initiative. Prior to the faculty interview process, an e-mail (Appendix A) was sent to each of the full-time CIS faculty explaining the research and soliciting their willingness to be interviewed. Each faculty participant was asked to sign the Consent to Participate in Research (Appendix B) which assured that participation in this project was purely voluntary with no penalty for withdrawal or nonparticipation.

Additionally, faculty members were asked to solicit students in their classes as volunteers to participate in this study. Faculty were provided with the exact wording to read to prospective student volunteers (Appendix C) in a traditional classroom setting or to post in their online course. All student volunteers needed to have taken classes in both traditional format and online in the last two years.

Students who were willing to participate in the study were asked to indicate to their instructor their willingness to have their contact information provided to the researcher, or if they were uncomfortable telling their instructor they were given the researcher's e-mail and telephone number. The students were also sent an e-mail outlining the project, the criteria of having taken classes in both modalities during the last two years and thanking them for their willingness to be interviewed (Appendix D). Prior to being selected for the interview, students were contacted and asked the dates of recent online learning and traditional classes to assure they had been enrolled in the last two years. Students were assured that participation or nonparticipation in the research study was completely voluntary and would have no impact on their course grade or their status at the college. Student volunteers were also asked to sign the Consent to Participate in Research form (Appendix E). Students who were unable to come to campus for interviews provided a consent via e-mail. The identity of student participants was known only to the researcher. The number of students interviewed was fifteen when saturation was reached in the identification of prominent themes. Merriam (2002) defines saturation as the researcher hearing the same things continually and no new information surfacing as more data is collected.

All interviews were semi-structured. Merriam (2002) identifies that the semi-structured interview as containing a mix of more and less structured questions that seek specific information from all participants. Since the topic of academic dishonesty is a sensitive one, all interviews were conducted privately so as not to influence participants' responses. The interview questions (Appendix F and G) were directed at gaining insight into faculty and students' perspectives on what contributes to cheating in both online courses and face-to-face classes and if there are any differences. Additionally, information on what faculty and students thought could be done to encourage an environment of academic integrity online was gathered. All full-time CIS faculty (7) were interviewed. The faculty interviews were over an hour in length; none exceeded ninety minutes. Fifteen students were interviewed. The student interviews averaged about thirty minutes; none exceeded forty-five minutes. The data for this study was collected during spring semester 2010.

Data Analysis

The goal of case study research is to discover and portray the multiple views of the case by obtaining description and interpretation of others through interviews (Stake, 1995). Analysis of case study data is one of the most difficult aspects of doing case studies (Yin, 2003). Stake (1995) defines case study analysis as the process of giving meaning to the first impressions through final compilations. The function of analysis is to the take something apart and then put it back together again more meaningfully (Stake, 1995). A primary goal during the analysis process is to ensure

that strategies treat all data fairly, and the conclusions are supported by compelling analytical data (Yin, 2003). Additionally, the analysis was conducted using a constant comparative method (Glaser & Strauss, 1999).

In qualitative research, data analysis is simultaneous with data collection (Merriam, 2002). Therefore, it is important to identify emergent themes beginning with analysis of the first interview and then refine them as additional data is collected and analyzed (Merriam, 2002). The use of pattern-matching logic when doing case study analysis is the methodology used to align concepts with major themes or coding categories (Baber, 2007). Stake (1995) identifies two different ways to identify patterns. Patterns can be identified either almost immediately upon completion of an interview, or transcripts of interviews can be coded first and then sorted thematically with patterns being identified by the frequency of codes.

To begin the data analysis process, all interviews were recorded and transcribed verbatim. Stake's (1995) first methodology was employed where major codes were identified initially upon completion of an interview by listening and re-listening to the recorded interview. The major codes were then applied to the transcripts of the interviews by going through the interview transcripts line by line. The pre-established codes were marked in the data, although new codes were sought. WEFTQDA, a free qualitative data analysis tool, allowed the researcher to analyze textual data. Subsequently, major themes were identified and placed into categories. This initial process was stage one of analysis where tentative categories and properties, which defined or explained the categories, were generated and data was

coded into relevant tentative categories (Glaser & Strauss, 1999). Notes were kept about connections identified among categories and properties.

Stage two of data analysis included a comparison of data within categories (Glaser & Strauss, 1999). This comparison was accomplished by using the major themes to sort files and identifying and coding sub-codes as part of the transcript re-reading in WEFTQDA. Repetitions across themes were identified.

During stage three of data analysis, categories were reduced yet again to highly conceptual categories and data was evaluated for fit against the categories (Glaser & Strauss, 1999). A core category, defined as a main element to which all other elements can connect, was identified (Glaser & Strauss, 1999). In Chapter 2, the theoretical framework of invitational education was outlined. During the analysis process, identified themes were aligned and cross checked within this theoretical framework. Alignment of themes within the framework helped to assure that a consistent analysis was employed across the various interviews (Baber, 2007). Creswell (1994) stated the researcher must be comfortable with developing categories and comparing and contrasting the data against themes but also being open to other possibilities. The researcher must also use rival explanations when analyzing the data to ensure that all influences are considered and alternative solutions are given appropriate evaluation (Baber, 2007). The fourth and final stage of data analysis resulted in writing the analysis supported by themed categories (Glaser & Strauss, 1999).

Validity and Reliability

A major concern in qualitative research is the validity and reliability of the study (Merriam, 2002). The primary concern of validity centers around whether the researcher accurately portrayed the perspectives of those being interviewed, actually uncovered the complexity of human behavior in context, and presented a holistic interpretation of what is happening (Merriam, 2002). In order to assure validity of findings, the researcher used a process called member check. Merriam (2002) defined this as the process of asking some participants to comment on the researcher's interpretation of the data and whether the participants recognize their experience in the interpretation. Additionally, peer review strategies were employed through the dissertation committee, as well as peer doctoral students, who were asked to scan some of the raw data and determine whether the proposed findings were plausible based on the data (Merriam, 2002).

Reliability is defined as the extent to which research findings can be replicated (Merriam, 2002). Although in qualitative studies replication will not produce the same results, this does not discredit the results of any particular study; there can be numerous interpretations of the same data (Merriam, 2002). Bandura (1977) stated when analyzing data regarding personal characteristics and situational conditions, the resultant patterns are not particularly useful or repeatable because you can obtain any pattern depending on the types of persons, behaviors, and situations studied. The goal with qualitative research is to see if the results are consistent with the data collected.

The study is reliable if others concur that, given the data collected, the results make sense (Merriam, 2002). Peer review strategies also provide feedback on reliability. To ensure reliability in this study, the researcher maintained a documented audit trail of how the data was collected and how data classification decisions were made. Merriam (2002) defined an audit trail as a running record of the researcher's interaction with the data as the analysis and interpretation was accomplished.

Delimitations and Limitations of the Study

This study was delimited by the following: First, the setting was a large community college located in the northwest suburbs of Chicago. The employment of a case study focused on a single program, CIS, at the college bounds the scope of this study. Also, the researcher did not look to identify all the components that may have an impact on faculty and students' beliefs about academic integrity.

Additionally, the population of faculty and students interviewed came from one academic domain, CIS. Experiences of students and faculty in CIS with academic integrity both online and in traditional classroom may be very different than other academic domains. The use of one academic domain may limit the applicability of this research to other academic domains. Finally, the research was conducted during only one semester.

A limitation of this research study is that all students interviewed were volunteers. Students who volunteered to be interviewed about academic dishonesty and integrity may have completely different views on these concepts than students

who chose not to volunteer. Results are not generalizable because of small sample size. Nonetheless, research will provide insight into this phenomenon.

CHAPTER 4

FINDINGS

The purpose of this study was to explore how faculty and students can cultivate an environment of academic integrity in the online environment. Academic dishonesty, for purposes of this study, included the following behaviors: (1) copying material and turning in as original work, including material from a published source without giving the author credit; (2) turning in work done by someone else; (3) having someone else take a test or represent a different person in online class participation; and (4) giving or receiving unauthorized help on an academic exercise, including a test (Aluede et al., 2006). This study sought to address the following research questions:

1. What does academic integrity mean to faculty and students in an online learning environment?

2. What characteristics of online education may contribute to academic dishonesty?

3. How can a culture of academic integrity be cultivated by faculty and students in online courses?

This chapter is divided into two sections. The first section provides detailed information related to the site and participants. Specifically, faculty and students with experience in traditional face-to-face and online courses were interviewed for this

study. The second section of this chapter examines the major topical themes that emerged during data analysis. The patterns that emerged are represented through three major themes:

1. Lack of relationships with peers may increase academic integrity in the online environment.

2. Online students still require contact and relationship with their professors. The lack of a relationship or inability to interact with professors on demand may have a negative impact on academic integrity.

3. Accommodations that have been made for teaching online may actually eliminate the students' abilities to cheat and, as a result, increase academic integrity.

Narrative responses of participants are related through verbatim quotes related to each theme.

Description of Site

This study was conducted at a large community college located in the northwest suburbs of Chicago during the spring 2010 semester. The institution chosen for this research inquiry has a population of approximately 26,000 students in credit degree programs and offers over 5% of its scheduled credit courses online. Specifically, there are 144 sections of online courses available. In spring 2010, there were over 2,280 students enrolled in online courses, approximately 9% of the student population. The institution does not have an honor code.

The case study focused on the CIS program at the community college. Ten associate degrees in applied science and sixteen certificate programs as well as transfer classes are offered by CIS. Areas of study include Application Software, Information Systems, Software Development, Networking, and Web Development. During spring 2010, the CIS program offered 171 classes, of which 74 were completely online, 34 were traditional, and 63 were blended. There are seven full-time CIS faculty who either currently teach or recently taught both traditional classroom courses as well as online courses.

Description of Participants

This study focused on how an environment of academic integrity can be cultivated online; therefore, faculty and students were interviewed to provide insight. A description of both groups of participants is provided. Pseudonyms have been used to protect the identity of the participants; thus, a brief introduction of each participant is provided.

Faculty Participants

Interviews with all seven full-time CIS faculty were conducted in person. Faculty participants in this study taught in both the online and traditional classroom modality. There were three males and four females who participated in this study with a range of 2 to 15 years of full-time teaching experience, as shown in Table 1.

Table 1

Faculty Participants

Name	Gender	Years Teaching Full Time	Years Teaching Part Time
Kathy	Female	15	8
Paul	Male	8	9
Javier	Male	2	11
Karen	Female	12	8
Larry	Male	10	0
Beth	Female	13	8
Jane	Female	10	20

Kathy has taught at the institution for 23 years, 15 years as a full-time faculty member and 8 part time. She previously held the role of department coordinator. Kathy was an early adopter of online education, teaching in this format as early as 1995. Her primary teaching responsibility is the Windows operating system.

Paul is the current department coordinator. He has been teaching online for eight years. Paul started at the institution as a lab aide in the CIS program and has been teaching at the institution for 17 years, 8 of them full time. He currently teaches some of the more advanced program offerings including database and networking.

Javier, the newest member of the CIS faculty, has only been teaching at the institution for two years full time. Prior to teaching full-time, he was a training consultant and an adjunct at another community college. Javier teaches classes that focus on exploiting web technologies such as Flash.

Karen has been teaching online for 10 of the 12 years she has been employed by the institution. She began teaching full-time at the College after spending several

years in industry. Karen teaches primarily web courses that enable students to create a web presence.

Larry spent many years in the telecommunications industry and primarily teaches software development classes. He started teaching online two years ago and has been employed at the institution for 10 years.

Beth has been teaching at the institution for 21 years, 13 of them full time. She has been teaching online for the past eight years. Beth primarily teaches introductory-level computer classes and enhances her traditional face-to-face classes by using technology that can be viewed online.

Jane has taught at the College for over 30 years, the past 10 as a full-time faculty member. She has taught online for the past eight years. Jane usually teaches the introductory-level computer classes.

Student Participants

Because faculty and students tend to disagree on the severity of academic dishonesty (Condon et al., 2000) and what behaviors actually constitute academic dishonesty (Aluede et al., 2006), students' perspectives on academic integrity in online classes were also sought. Student volunteers for this study needed to have taken classes both online and in a traditional classroom setting within the last two years. A cadre of 15 students, 6 males and 9 females, were interviewed. The majority of students were nontraditional age: twenty-five years old and older (Gibson, 2000). Only three of the participants were traditional-aged students. The students' academic

aspirations varied and included degree-seeking students, certificate-program enrollees, transfer students and students who were receiving dual credit (attending classes at a four-year college concurrent with enrollment in courses at the community college). Additionally, some students had the same major but were pursuing different outcomes: associate degree versus certificate. Table 2 provides an overview of the student participants, including their status as well as their major.

Table 2

Student Participants

Name	**Gender**	**Major**	**Traditional Age Student**	**Status**
Richard	Male	Web Design	N	Sophomore
Ania	Female	Web Development	N	Sophomore – May just seek Certification
Daryl	Male	Web Development	N	Sophomore
Jaclyn	Female	Computer & Business Applications	Y	Freshman
Amber	Female	Business Management	Y	Sophomore
Anthony	Male	Criminal Justice	Y	Freshman
Brent	Male	Web Design/ Graphic Arts	N	Freshman
Jessica	Female	Certified Visual Web Design	N	Has a Master's Degree. Working on Certification
Ashok	Male	Finance	N	Sophomore
Lorraine	Female	Management Information Systems	N	Sophomore - Transferring to four year institution.
Julie	Female	Computer Information Systems	N	Sophomore
Candace	Female	E-Marketing	N	Junior at a four-year institution. Dual Credit.
Debra	Female	Psychology	N	Freshman at four-year institution. Dual Credit.
Annette	Female	Management Information Systems	N	Sophomore
Mitesh	Male	Management Information Systems	N	Freshman

Richard is a nontraditional-aged student. He is in his last semester of web-design.

Ania is a nontraditional-aged student. She has returned to school to get her certification in web development, after her sign business failed due to the economy. She is hoping to develop web pages to revitalize her business.

Daryl is a web-development major and nontraditional-aged student.

Jaclyn is a freshman pursuing a major in computer and business applications. She is a traditional-aged student.

Amber is a business management major classified as a sophomore. She is a traditional-aged student.

Anthony is a criminal justice major. He is in his second semester of his freshman year. Although Anthony described himself as an older student unable to relate to other 18-year-old freshmen, he still fit the age profile of a traditional student. Additionally, Anthony decided to attend college after receiving his GED and realizing the value of getting an education.

Brent is a web design/graphic arts major. He is currently taking four classes, one of which is online. He is a nontraditional-aged student. His company allows him to have time off to attend his traditional classroom courses.

Jessica has her master's in marketing. She has returned to school to get a certification in visual web design to help advance her job opportunities in marketing.

Ashok is a nontraditional-aged student. He is pursuing a major in finance and is in his second year of study.

Lorraine is pursuing her management information systems degree. She is a nontraditional-aged student and currently works in the online education industry. Her company provides the platform for distance education to multiple institutions.

Julie is in her second year and is working towards her associate's degree in CIS. She is a nontraditional-aged student.

Candace is pursuing her bachelor's degree at a four-year institution and is taking classes at the community college (i.e., dual credit) through a reciprocity agreement. Candace is a nontraditional-age student and her major is e-marketing.

Debra is pursuing her bachelor's at a four-year institution and is enrolled through a reciprocity agreement. Her major is psychology and she is a nontraditional-aged student.

Annette is in her second year of study and is working toward her degree in management information systems. She is a nontraditional-aged student.

Mitesh is a first-year student who is majoring in management information systems. He is a nontraditional-aged student and is pursuing his degree while he watches his school-aged children.

Defining Academic Integrity

Faculty and students tend to disagree on what behaviors actually constitute academic dishonesty (Aluede et al., 2006; Burrus et al., 2007; Condon et al., 2000). However, this study did not find any misalignment between the views of faculty and students about academic integrity online. The views of all participants, faculty and

students, echoed the sentiments of the definition that academic integrity means honesty and responsibility in scholarship (University of Oklahoma, 2010). Academic integrity is the pursuit of academic endeavors in an environment free of academic dishonesty.

Faculty discussed academic integrity in terms of student learning. For example, Paul stated, "What it means to me is no different than what it means in a traditional class, which is a violation of the institution's academic policy. Doing your best work, referencing any sources used and showing that you are actually learning what you are supposed to be learning." Likewise, Jane expressed similar sentiments as she conveyed, "Integrity is somebody is motivated and does quality work. The people who treat the class and with effort and desire to really learn."

Additionally, several faculty participants emphasized that integrity meant students doing their own work. Larry provided the most succinct definition as he commented, "Every answer is his own. Every answer is in his own words." Similar to Larry, Beth spoke of students doing their work: "I expect them to do their own work. I expect them to contact me if they have problems and let me know about it." Another faculty member, Kathy, emphasized students doing their work as she remarked, "Students are really doing their work. Taking the tests. They are who they say they are." In addition to doing their own work, Karen relayed that work should not be shared: "Feeling ownership of your work and creating originally. Not passing answers to other students."

Some students defined academic integrity by comparing it to academically dishonest behaviors. Other students discussed what it meant to the learning environment. Debra put it most succinctly: "Honesty--being honest. Doing the right thing." Similarly, Lorraine stated, "It's a trust issue. Each person involved in an online class should be upholding a certain level of the quality of work they are doing. The quality means leaving the dishonest part out."

A few students mentioned integrity in terms of adhering to a set of defined standards. For example, Julie stated, "Just to maintain the instructions you are given by the instructor. Make sure you follow the guidelines that the school sets or the instructor sets." Richard reflected on what integrity means while learning: "To have integrity, to be honest, to be forthright, to know that what you put into your work is what you are going to get out of it. As a student, to uphold the values and the morals of the institution." Anthony expressed similar sentiments as Richard relative to the institutional values: "Well, academic integrity means more or less your integrity is in tune with the school's ideals of honesty."

Five students offered specific activities when discussing academic integrity. Amber, Brent and Daryl discussed a range of activities that students should adhere to relative to academic integrity:

> Just doing what's right, basically learn with your morals. Completing things on your own and going about your classes and doing it on your own. Don't have anybody do it for you. Don't plagiarize. Don't copy other people's work and don't have other people do the work. (Amber)
>
> I think it's submitting original work, with references as needed. (Brent)

> Doing your course and taking the tests just like you would if you had to show up for the class. (Daryl)

Adding to comments of other students, Jessica thought it did not make a difference what modality the class was in: "I think it should be the same as it is in the offline you actually do the work. Likewise, Candace related that the anonymity of online classes should not make a difference in academic integrity: "It means being honest, completely honest. It can't be because they don't see me you can do the work for me. It cannot be anybody else-- it has to be you."

Themes

The patterns that emerged during data analysis center around three major themes. First, academic integrity in the online environment is positively influenced by the lack of a relationship between students. Second, although students do not have scheduled face-to-face time with professors, it still is a necessity for students to feel as if they have a relationship with their professor. A lack of a relationship with the professor can have a negative impact on academic integrity. Last, the participants in this study indicated that accommodations made for teaching in the online environment can eliminate the ability for students to engage in academically dishonest behavior.

Role of Peer Relationships

In several research studies, the variable ultimately found to have the biggest impact on academic dishonesty was peer behavior (Bowers, 1964; McCabe et al.,

2001). The participants in this study, both faculty and students, resoundingly agreed that peer relationships had a direct influence on academic dishonesty. Repeatedly, participants asserted that the existence of a relationship between students encouraged academic dishonesty, and correspondingly, the lack of the existence of relationships in online classes discouraged cheating, thereby enhancing the climate for academic integrity.

Faculty Perspectives on Peer Relationships and Cheating

All seven of the faculty interviewed stated that incidences of cheating often occur between students who are friends or relatives. Paul noted that "Relationships between students are not actually about learning but rather about sharing." However, student sharing or collaboration can easily become cheating, as Jane explained:

> There is a fine line between academic dishonesty and collaboration. I am all for collaboration, but collaboration is not you doing half the lab and someone else does the other half. Some people think collaboration is "hey we are working together come on over I'll do a half; you do a half; and put our names on both."

Frequently the issue with collaborating is that a student who understands the concept does not know how to help a peer without actually doing the work. Paul relayed how students who are willing to help their peers fall victim to academic dishonesty inadvertently:

> Good students don't understand the line between helping and sharing. And we don't teach people how to teach so they don't know how to give help without giving the answers. There is a problem that good students don't understand that they are equally at risk of academic honesty violation by helping someone

> else. We ingrain to the good students that copying is bad; we don't convince them that sharing is bad.

In trying to give her students guidance, Karen tells her students: "It doesn't mean you can't help each other, but it's not just giving someone the answer." Likewise, as Kathy stressed, "It is okay to work together, but you must turn in your own file." Larry, on the other hand, takes a different position. He tells his students they are not to help each other. "Only ask the instructor for help. Frequently students feel if we work together we write down the answers it's okay because we worked together."

Faculty members also expressed concerns with respect to students who are relatives negatively impacting academic integrity. For example, three of the participants conveyed stories of academic dishonesty that occurred when students were related. Jane described an experience with a husband and wife:

> I did have a husband and wife two summers ago. He did one assignment, and she did the next, and they thought that was okay. It was cheating and in their minds it was collaborating. They turned in identical assignments. I phoned them at home and said, "Okay, you guys, I have identical assignments. All you are doing is changing the name." They still did their own tests so in their minds they were like, we did our own tests. They just didn't do their homework separately. So I phoned them, and I spoke to them and the guy was very defensive. He really did not think it was abuse. Or since they only had one computer, if one person was standing in the room while the other did the work, they thought they could both turn in the work. That is truly not doing your own work, and I don't think people always get that.

Javier conveyed a similar experience with students who were family members: "I had three family members that took the same course, two brothers and a sister. Their web pages all looked and were coded identically. The content was different, but the code

was identical; the mistakes were all in the same place." Karen also shared a story of family members cheating:

> One semester, there must have been an article about parents taking courses with their kids because in the same class I had two sets of parents; a mother and a daughter, and a father and son taking the class with the kids. The first web page, they both handed in identical web pages, parent and child, so we had a little talk about it.

However, academic dishonesty is not just an issue with family members taking class together; frequently it occurs among friends. For example, Paul asserted that students form relationships while attending traditional classes together for cheating occurring in the online environment:

> Where I actually see the problem in my classes is from students who have been together in a traditional class and now have a relationship of sorts and are now stuck in the online environment. Since they don't have the classroom environment and the face-to-face time with the instructor, they are getting their face-to-face time with other classmates, collaborating too much and then submitting identical or nearly identical work.

Another faculty member, Larry, limited the ability of his online students to have a relationship. He does not use the institution's traditional learning management system so there is no student interaction. Larry ensures all communication is between him and the student: "If students wish to communicate with others in the class, they may send me contact information, and I will share that with others who may wish to do the same. Almost no one ever takes me up on that offer." He believes "When you are learning, sharing does not fit." Accordingly, Larry's classes do not have any group projects.

Although not taking overt action to limit relationships in her class as Larry does, Beth expressed that a lack of relationships in the online environment reduces cheating:

> Well, knowing someone in class actually helps the cheating because you have someone in there you can ask. Actually online sometimes they don't know each other, and they don't feel comfortable enough asking each other, although I did have one online class where they became buddies, and one of the students showed up at the other student's house asking for help.

Although students may form relationships online it does not mean that they are always willing participants in academic dishonesty. Jane identified the role that peer pressure plays in cheating, relaying the following incident of online students turning in identical assignments in a programming course. When she questioned the students "He said, 'I was really busy at work, and I ran out of time, and I asked my friend and he gave me his.' And so I think there is some peer pressure there with classmates and if someone is in a bind and they [sic] get asked they [sic] really don't want to say no." Recognizing peer pressure may play a role in academic dishonesty for those who are asked to provide answers, Beth elaborated on how she attempts to prepare her students for peer pressure:

> Well, the students need to know in their life time they're going to get someone asking 'Hey can I get your notes? Can I copy your answers?' They need to know that they have to stand strong and say 'No, I can't.' Yes, that's a hard thing to do. You want to be liked, you want to be accepted and that's not always easy to do. But I also tell the students if someone approaches you and you feel uncomfortable dealing with that let me know [and] I will deal with it.

Student Perspectives on Peer Relationships and Cheating

The majority of student participants in this study expressed similar views as faculty members relative to the idea that cheating frequently occurs between friends. For example, Candace asserted that faculty needs to address friends taking classes together: "I think that the professor needs to realize that there are students who are friends enrolled in college and that can be a real possibility [for cheating]." Another student, Annette, admitted to having a friend give her answers to a test: "A friend was willing to give the answers to a test. I hated the class; I didn't get science. I tried hard and none of it made sense to me, and I didn't want to fail." Daryl, however, was accused of cheating because he helped a friend in his online course:

> A friend of mine is in the same online class, and he was having a lot of trouble coding this script. He was e-mailing me and saying 'Oh this is really hard, and I don't get it.' I was, like, 'you know what, I'll work on it and we'll see what I get and what you get and compare and see how it works.' I didn't tell him don't do anything wait till I get it done and I'll give you the answer. I told him to work on it and let's see what you get and what I get. So I do that, and I see where he made a mistake. I guess his script looked similar to my script, and our teacher went ballistic, and he was, like, 'You're cheating,' and I was, like, 'No we're not cheating; I was helping.' I asked him where is the line drawn in the sand between helping and cheating. I'm still a little bitter about that because I don't feel like I was cheating. I don't feel that my friend was cheating. I feel like we were helping each other.

In contrast, the online environment often does not provide the opportunity to form relationships. Candace related the difficulty of asking another student online for answers. "You know that's going to be real tough to cheat in the online classes. It's hard to logon with somebody that's in North Carolina and you are in Illinois and you say 'Hey Miss North Carolina can I borrow your work for the day'. That's kind of

hard." Julie believed that it was not just lack of relationship of the students in the online environment that improved academic honesty but rather the lack of visibility to other students. "You have a fear of failure in front of other students. I don't think that's really true online; other students don't see how you do."

In terms of help, however, students believed it was important to be able to get help from friends or peers in the online environment. Daryl was more comfortable asking a friend for help. "You feel more comfortable asking someone you know for help than to go on a discussion board and post your question in front of the whole class. Some people feel more comfortable one-on-one with somebody they know." Candace, however, disagreed and asserted that student communication and requests for help should be public. "We can't share information with one another in private. If we do have a discussion, we can post that information. It should be if you want to discuss something, discuss it in a forum."

Regardless of the method of course delivery, most students indicated that using faculty as their only source for help was not enough. Debra stressed that when she tried to get help from faculty in her online class, she became frustrated and went to the tutoring center:

> You try to get clarification, they [faculty] are constantly pushing you back to assignment one, and you are at assignment eight. You've been asking all along for help. I got help. I used the tutoring center; it worked out fine.

Amber also noted that students should be able to get help from other sources: "If you need help, then go to the right people. Go for help, but don't have anybody do it for

you." Brent even went so far to suggest that certain students be tasked with the role of helping others:

> I think in this one class it's a little bit too dependent on the one teacher. I think if there was some sort of assistance, more than one person even from the student group. Some sort of, more than one, point person or a team. So offload some of the questions from the faculty directly to help students get the help they need. I mean just for students online.

Julie explained that in the online classes the discussion boards with her peers provide necessary help without giving the answers:

> If you're not getting it, for example I had that one time doing subclasses. Being able to ask questions online helped. People were giving different methods of how to do that and how to get this and to move forward it might be easier if you did it this way. That was not necessarily cheating.

Ultimately, if students cannot get the help they need from the correct sources, they will seek alternatives. Jessica thought that one of the biggest reasons that students cheat is the inability for them to get the help they need. "If you struggle and you can't get the help from school, from tutoring, or from your teacher. People know these programs. It's very easy to go and say "Can you help me do this?" "Can you do this for me?" Jaclyn expressed a similar view to Jessica's: "Maybe first they're at the school and they don't have the teacher to ask. Maybe they can't get to the school, and they take the easy way out by cheating."

Both students and faculty participants in this study identified student peer relationships as an influence in academic dishonesty. Correspondingly, the participants also stressed that lack of peer relationships in online learning resulted in

improved academic integrity. However, student participants emphasized the need to be able to work with their peers on assignments and to receive help from their peers.

Role of Relationship with Faculty

Researchers attributed lower levels of academic dishonesty to the personal relationship between faculty and student which fosters an environment of academic integrity focused on intellectual and academic pursuits (Bowers, 1964; McCabe et al., 2001). However, in the online environment, researchers asserted that there is no bond developed between student and faculty, which is a key factor in mitigating a culture of academic dishonesty and instead instilling a culture of academic integrity (McCabe et al., 2001). Grijalva et al. (2006) proposed that the reason for the perception of an online environment as more conducive to academic dishonesty is the lack of direct interaction between students and faculty in web-based courses. Student participants in this study echoed the sentiment that a relationship with the professor encouraged academic integrity.

Student Perspectives on the Importance of Relationship with Faculty

Of the student participants, Richard stated most emphatically and succinctly that the issue of a lack of direct interaction with the professor had the greatest impact on academic integrity online. "Online the connection is gone with the teacher." He even offered that as a way to increase academic integrity perhaps at least one face-to-

face session would be required where the teacher discussed expectations for academic integrity:

> Maybe to have a required orientation, where you must meet and maybe meet one-on-one, face-to-face with the teacher and hear their [sic] expectations, so you are actually hearing them [sic] verbally not just through online blackboard. Where now it's basically read the word doc, sign it, and e-mail it back: which we do. But are most people really reading it? With one-on-one, you kind of maybe hopefully feel more like 'Hey this is what the policy is about.' You hear it more verbatim than you do when you are reading it.

Brent shared Richard's thoughts about a personalized message from the professor but did not think it had to be a face-to-face meeting. Rather, he offered that perhaps just seeing the professor's face would be sufficient. "I think teachers' interactions might help [academic integrity] or some sort of video. A video maybe once or twice through the semester, not even live. Yeah, something like that maybe as the welcome."

Regardless of the educational modality, students believed that it was the responsibility of faculty to set the guidelines and expectations for academic integrity. Annette noted that a primary faculty responsibility was to set the class standards:

> Well, I think faculty has a responsibility to create consequences and to definitely set a standard and communicate that standard. As a student, I want to know exactly what the expectations are, whether it's dishonesty or whether what's required in a report. I would like to know what the expectations are because that's how I'm going to carry on with things.

Mitesh also emphasized the importance of the role of faculty in setting clear guidelines that students can understand for academic integrity:

> Responsibility is really great on faculty. They are the ones who will set the guidelines to the student. It has to be clear and it has to be really something that the student will understand not with fancy terms, very simple. Very easy

> to understand for a student to say "I'm not going to do this and this and I will be held responsible on the test and my grade will be downgraded to this." To instill that it's not okay to cheat.

Similarly, Daryl reflected that faculty must personalize what academic dishonesty means in their class and not just rely on the standard wording of the school policy:

> I had a teacher, [and] he made it pretty clear that even helping someone was cheating so no one even talked to each other. He told us up front what he considered cheating and that was it. Another teacher just said the boiler plate academic integrity in the syllabus. He didn't have his thoughts on what cheating was. That would have been clearer than to just use that boiler plate.

A majority of the students expressed that in addition to clear expectations about academic integrity professors must be available to students. Candace relayed a story about confronting a teacher online about a grade she received. She was comfortable doing this because the teacher had given the class his telephone number:

> You need to have a personal relationship. We are people. The first time a professor gave me his phone number at home I was like wow. He's all the way in California, and it's funny; it's winter here, right, and I saw a grade come up for me, and I dialed his number. I was, like, 'professor I am in your EWW class. I just noticed you posted me a zero.' He said 'Candace, I didn't receive your assignment.' That was nice because he created this close connection. He was grading papers 'cause it [the grade] just popped up. No problem with me calling him right now; he's online. I liked that, just hearing his voice and everything. Knowing he was a person. You know what they [sic] are doing in my online classes; they [sic] give me a picture of my professor and his resume.

Brent elaborated that timely feedback from faculty was needed to stay connected with students:

> I think grade feedback is also helpful in an online course. Specifically, the teacher not only grades things, but he gives comments on projects and assignments and projects each step along the way. So you can tell he has really looked at it.

In addition, Brent conveyed that faculty availability online through regular office hours was necessary. "He is online regularly. You know you are going to get some reply. He also has great office hours for availability. So even though he is online, he is available as a person." In contrast, Jessica explained that teachers are not always as available as students would like even when office hours are posted:

> Teachers being available and some say they are and in reality they really [are] not. I don't know if teachers want to hear that. They're too busy becoming tenured; they're writing a book; they got a three-hour time period that they have on their syllabus [and] they're really not available.

Some students relayed that in addition to being available to students faculty needed to create a connection with their online students. Ania stated, "You [faculty] can really be open-minded. You can be helpful. You know, listen to the students. You can open a student's mind but they [faculty] have to know how to approach students how to get from them what they want." Julie also spoke of the importance of the professor cultivating a comfortable environment:

> Well, setting rules and just making the environment feel comfortable. Letting students know it's okay asking questions. No question is a stupid question, that sort of thing. Making people feel comfortable and pursue the right avenues and not cheat. Do things the right way, asking you teacher; feeling comfortable to ask your teacher.

Jaclyn agreed with Julie and Ania regarding faculty student connection. "Just making sure that their students are learning. Like making sure there is help and they [faculty] are available."

Additionally, Ania believed that faculty needed to know what each student needed individually:

> You look at your students and know that this person can do this but has to be kicked in the butt, but the other one can do it but is shy. [The] teachers' approach is different. Somebody is very talented but is not doing good [sic] in math. So definitely see people who need more time or they need one-on-one conversation. Find out what's wrong with them, not wrong but why they aren't doing what they are suppose to do. I know if students feel good in a class [they] really feel [a] connection.

Debra was less definitive on what was actually required of faculty: "Well, to me it's important that the teacher is actually a good teacher. But when they're not good they don't have the patience. They don't have the structure, they don't know what it takes to motivate a class to want to participate."

Two students mentioned that the way for students to feel more connected in the online environment was related to the amount of work required. As Ania stated, although students dislike the amount of work, it is an important component to staying connected:

> Online it's more of [what] we do on the blackboard. We can just say our opinions and because we did discussion question (DQ), no one likes them because we have to just sit and think and try and say something. Most of the students are, like, 'oh my god another DQ but it kind of keeps us more connected. We talk.'

Similar to Ania's comments on discussion questions, Amber noted teachers in the online environment could improve academic integrity in the classroom by assigning more work. She shared, "If you have more work to do that way the teachers will keep on you, if there is more to do and deadlines to meet."

Faculty Perspectives on the Importance of Relationship with Faculty

Of the seven full-time faculty interviewed for this study, only Beth mentioned that a relationship with students could encourage academic integrity in the online environment. Karen briefly mentioned having a student-faculty relationship as a way to mitigate cheating: "Being available to students, coaching, and mentoring." Beth closely linked academic integrity with a relationship with the faculty member:

> I tell them I am interested in their success, and I am here to help them. If you get stuck, you need to come to me first because you need to learn this stuff. You are going to need it for subsequent classes, so cheating doesn't help you. I think they realize that I want them to succeed. I want them to get the information. I want them to learn it's not just about getting the grade, and I think doing all of that helps reduce the amount of cheating that goes on. If students are struggling, their first response is not I need to cheat but their first response is that I know my teacher will address it whether via email. I respond to e-mail usually within 24 hours, many times before then. I say it over and over again just about every class, you got a question e-mail me. You got a question e-mail me.

Two other faculty members emphasized the importance of being available to answer questions so students would not seek other sources of assistance. Jane noted that she provides her telephone number to students so they will turn to her for help: "They call me. They all have my phone number so if they get stuck, I can walk them through it, usually from home. I give them all my cell phone and my e-mail. There are people who definitely take advantage of that." Paul opined about the time demands when teaching online and the need for the instructor to be available almost constantly. "In an online environment the instructor has to be on e-mail constantly because if they [the students] can't get immediate feedback from the instructor, they will go somewhere else."

In alignment with the perspectives of student participants relative to clear guidelines, all faculty participants noted that a statement regarding cheating is included on their syllabi. However, the level of attention that a statement on academic dishonesty received on the syllabus and during the class varied. For example, Jane indicated she uses the institution's standard policy. "I put the policy out there. I just don't know if the students really read it." Javier not only includes the statement on his syllabus, but he warns students: "Letting your students know that you will be looking at that [cheating], keeping an eye." Karen asserted that students must be informed of the expectations for academic integrity: "Setting clear expectations; letting them know in the syllabus that this is not tolerated." Larry includes the institution's statement and also adds a statement about learning: "Syllabus says you must learn the material. You are not learning if you are cheating."

Some faculty members not only include a statement in their syllabus but take further steps in conveying the academic integrity guidelines. Paul includes a statement about academic dishonesty in his syllabus and reiterates it throughout the semester. "It needs to be in the syllabus. It needs reminders as well. I had that two weeks ago where I had to post as part of my weekly announcement across my classes, "this week there was some questionable academic integrity." Kathy has it in her syllabus but also ensures students understand the information by quizzing them on it. "Before assessing any assignments online there is a quiz. Quiz has to be 100% right on everything covered in the syllabus cheating policy." Beth has her students sign an honesty policy. "I have them sign an honesty policy. I give them examples of when students have

cheated so that they have some ideas as to what it means and what it doesn't. We do that up front."

In terms of a relationship with faculty, almost all of the students in this study mentioned this was important for academic integrity. Additionally, the students also stressed the need for faculty to convey in simple terms what cheating means in their class. Only one of the faculty members mentioned relationships with students as an important element in creating an environment of academic integrity, with one other mentioning mentoring and coaching as a deterrent to academic dishonesty. Two faculty members reflected on their availability to students for assistance to hinder their need to ask for outside assistance. Setting clear academic guidelines was mentioned by all faculty members and a majority of students as a key aspect of academic integrity.

Accommodations for Teaching Online

Frequently students and faculty disagreed about what constitutes cheating (Aluede et al., 2006; Burrus et al., 2007; Condon et al., 2000). This, however, was not the case in this study, as both faculty and students cited similar behaviors of academic dishonesty. Additionally, all participants shared thoughts on how cheating could be mitigated or even eliminated in the online environment using various strategies.

Faculty Perspectives on Accommodations for Online Academic Dishonesty

Several of the faculty participants noted it is much easier than students believe to catch students cheating on assignments in computer classes, regardless of modality. As Jane indicated, "It's easier to catch than students think. With properties and file properties, you know. Even with 60 students, two that are identical, you know." Kathy shared some ways of identifying that copying has occurred: "The same name in header names. Identical font with the same wording and same color. No brainer." Paul expressed similar sentiments as he described how easy it is to identify instances of academic dishonesty:

> They [students] think it [cheating] is easier to get away with online. I think it is actually harder because everything there is a written record. They will copy, but they don't realize the font changed, or they'll post, and they don't realize it still has underlined links in it, so you click on the links and figure out where it came from. Google is an absolute god-send that you can put quotes around things, and it will bring back the original.

Moreover, faculty indicated the very nature of programming made it easy to identify students who had copied others' work. For example, Jane stated, "Programs are creative and that's what people don't understand. It's pretty blatant to catch when you know there are many different ways of solving a problem and usually two people are not going to do it the same." Paul expressed the same sentiment:

> I find that they [students] do not understand how unique programming is writing code is like in other written paper. And nobody is going to pick the same variable names, and nobody picks the same indentations. The spacing is unique but because they are alone in a new language; they don't know it is unique; they think their assignments should be identical. They don't have any ideas that I am going to recognize that this is a problem. So I tell them that I've never seen anyone submit the identical program in this class.

In her coding classes Beth informs her students "that programming is a reflection of how we think and none of us thinks the same so even though we have the same assignment their code is going to be different."

Testing. A primary accommodation that all but one of the CIS faculty used for teaching online, believed to negate academic dishonesty, was to require finals (or in some cases midterms as well) to be proctored either at the college itself or at a recognized proctoring facility. Many of the faculty then added the additional stipulation that students' overall course grades could be no higher than one grade above the grade they earned on the final exam. Effectively, a student who cheated on every assignment, earning an "A", and subsequently failed the final exam could earn no higher than a grade of D for the course. Paul refers to this as "the magic final exam rule" and elaborated on how his syllabi specify this:

> I add to my syllabi, it says "Overall grade cannot exceed final exam score by more than one letter grade." So you can have someone else write your paper. You can have someone do your quizzes, but you still have to take the final exam with photo id and if you fail the final exam, your final grade is a D.

Kathy also incorporates the final exam rule and proctored tests in the testing center; her assumption is: "Students who are not doing the work all semester long cannot successfully pass the final." Larry requires all students to take their exams with him. "Exams are in the classroom. Exams are proctored by me."

Jane, on the other hand, does not bother with having tests proctored. She does not believe that tests are an important aspect of learning technology. Therefore, she

does not require the test to be proctored, nor does she place a great deal of emphasis on test grades:

> I don't make the tests be so much as part of the grade. My tests are not even half of the grade in the class. I just don't think that tests are the best way to determine if somebody has learned the material. I teach a really lab-intensive course. There is a lot of work [and] that's how I can tell that someone is learning it, applying it, using it.

Additionally, Jane allows students to use their books on tests and explained her rationale. "In all my classes all the tests are open book because with technology it changes so fast it's not about memorizing, it's about being resourceful."

Similar to Jane, Beth expressed that she allows open book tests only on quizzes and did not think this was dishonest because students still had to do the work:

> It used to be that I worried about if students looked at their books. They have regular chapter quizzes, and they are timed. They can look at their book, or they can look at their notes. They have to do the work writing notes or looking stuff up. They are still learning. That to me is not dishonesty.

Beth admitted that she started allowing open book quizzes when she began teaching online. "I never used to think it was okay that they could look in a book. But my perspective changed on that when I started doing online." Beth still requires students to take major exams in class or a proctored facility:

> I have my students, and I don't worry about whether someone else is taking the quizzes. But just to kind of ensure it is them taking the class or doing the work, all my classes have a midterm and a final, and they have to be taken either face-to-face with me or at the testing center, and there they cannot use their book.

Although Beth does not use the magic final exam rule as identified by Paul, her final and midterms are worth more points than assignments and quizzes. "Students

who cheat may get the assignments done but they won't do well. The midterm and the final are worth a lot more points than the assignments. The assignments are to get them to practice so when they do take the midterm or the final, they usually do well." Likewise, Kathy weighs her final heavily versus assignments. "Not doing the work - Can't do final."

Almost all the faculty mentioned that for tests and quizzes they use a randomized test bank so most students are receiving different questions. As Beth conveyed, "With a bank of 80 questions, students will usually be assigned only 15, thus eliminating the ability of students to share with each other what the questions on the exam were." Perhaps, Karen's sharing of an incident of students asking other students for the answers to a quiz provides insight into why she does not allow students to see the questions or the correct answers on quizzes:

> One time someone did send a message to other students 'Can you give me the answers to quiz three.' I used to let students have a print out of their quiz. I did not hide it after they had taken it. They could see which answers were right and which ones were wrong. Since that time I don't do that any longer. Students take their quiz, [and] they can see the number they got right, the number they got wrong. They don't see the correct answers. If they want to know more, I ask them to e-mail me then I let them know what they need to review. It gives them an idea on what they got wrong. That was a response to that.

Assignments. In addition to having proctored tests, several of the faculty shared that personalized assignments help create an environment of academic integrity. A few of the faculty delineated how they adapt class assignments for each student. Paul focuses on what the students have learned while doing an assignment:

> What I have them do is an assignment summary. And the assignment summary is that you have to pick five things that you did this week and tell me what you learned and tell me how you going to apply that learning to your own world. You all saw something different. You all did something different, and it means something entirely different to each of you. What that allows me to do even in a class like that I get 27 papers, they are all unique. They have to write using magic technology words. It helps them to communicate technology effectively. Helps them learn. I am reading someone's personal story, and I am seeing the learning. That is part of how I get some academic honesty in my classes.

Even with coding assignments, Paul believed that customizing the assignments mitigated cheating. "In the code classes, code sharing is there so the challenge is coming up with assignments that they can't find and see elsewhere. Force them to personalize that in order to apply it to a specific problem." Paul uses a tailored approach in his assignments regardless of the type of course he is teaching:

> In the developer course [there] is a unique final project. Where in my database class, you need to design a unique database of eight to ten tables. I never had a duplicate because they are all going to be unique. The web class is to develop a ten-page website. The office program it is develop a macro that you want that includes these things that are from the class.

Beth conveyed specific strategies she utilizes in her class to individualize each assignment so students cannot cheat:

> I changed my assignments so not everybody is doing the same exact assignment. The assignment is tailored to them. For example, I teach Word and instead of them having the same Word project, it's the same skills, but the assignment is tailored towards them. I have them do some research about a career they are thinking about, and I have them provide in the intro why they want to do this. I cover the same skills, but it is tailored towards them specifically so there is no way to cheat.

Paul and Beth also elaborated on how making assignments relevant to the learning process to the student could minimize cheating.

> It's their learning, and I think they are more engaged if they have some say and, therefore, they will cheat less. If they have more buy-in, they are less likely to cheat because it is something they want to do. (Beth)

> I really think it is more in the assignments. If you make assignments unique and relevant, they have to be relevant; that is the only way. They have to be unique. They have to be personal. So if you have assignments that are unique, personal, relevant, how does this apply to you? That encourages unique and different thinking. In a lot of classes we don't allow that. We don't allow them to say I learned. I saw. I think. I feel. Unless you include that in the assignments, you are fostering an environment that will lead to cheating. It takes some work because then not everything is cookie cutter; it is much harder to grade. (Paul)

Larry and Karen also use assignments as a tool against academic dishonesty. Larry believes the use of standard textbook assignments encourages cheating: "My assignments are customized. My questions emphasize major points." Additionally, he protects assignment solutions: "Students may display solutions to assignments. They may look at them. They cannot print or copy, so they cannot share." Additionally, Larry requires "The final student project to be written in long hand. This way the solution cannot be copied and pasted from somewhere else."

Karen incorporates a step-by-step approach to assignments to combat cheating:

> I have a lot of small assignments not just one giant paper. I try to make them authentic and relevant. I try to personalize the assignments. For example, when I teach the computer fundamentals course, we have a semester-long project where the students choose topics from the chapter and relate it to their own life. They choose a topic; they create a power point, or it could be a paper. I have had students write songs or poems and there are six or seven different ways they can do it but they have to take topics from our course and relate it to their own lives. That one is very difficult to plagiarize.

Additionally, Karen establishes milestones throughout the semester where students have to show their work as they go and incorporate any feedback they have been given into the assignment:

> Students have to show their work as they go. If you give them input and they have to change it; if they haven't written it they have no way to take your input into the assignment. I take the same approach with papers and large projects. The students have their topic approved. Then they report to me five resources they might use. Then they have an outline. Then they have a rough draft. So if they have bought a paper at pare.com, the very least they have to do is re-engineer it to fit in with our format, and they have learned something in the process.

Jane, however, was not ready to commit to the added work of modifying a textbook assignment even though she realized that students can buy solutions:

> I do believe that some of the projects in the application class you can go and buy them or get them online. The textbooks are pretty popular, and you can go out and get your homework done for free or a small charge and perhaps that is happening. I could not use assignments out of the textbooks and make completely unique assignments, but the textbooks change every two years, and I'm sorry; that just takes so much time and effort.

In contrast to other faculty participants, Javier indicated students could copy and incorporate open source items on his web assignments as long as they understood how it works:

> We say don't re-invent the wheel and really it's saying if you want to use it then make sure you understand it. You can use it but if you use it in your project, if you use it in your web pages, you have to understand it. If you don't and something breaks and you need to come to me and say "I need you to fix this." I am going to be, like, 'did you code this yourself? No?' Then I will be, like, 'sorry.' So that is the point if you want to use it, and obviously it's okay because it is given for you to use, then you need to understand it.

Student Perspectives on Accommodations for Online Academic Dishonesty

Student participants repeatedly stated that they thought that cheating in the online environment was easier than in the traditional classroom environment because students are alone. However, most student participants readily offered a myriad of suggestions relative to eliminating cheating on tests in the online environment, including having proctored exams and timed tests with challenging questions. Additionally, students addressed modifications that could be made for assignments to have a positive impact on academic integrity, including reminding students that they are required to do their own work and making the assignments pertinent.

Testing. Many students offered that they are unsure how cheating on a test in the online environment could even occur. Annette was unclear about what cheating would look like in the online environment where faculty members frequently allow students to use books and notes during exams. "Many times in terms of test taking, the instructor will say you can use your book for tests. Open book tests, so I don't consider that academic dishonesty. If it's not specifically stated not to use resources, you can use resources." Ania concurred that open book exams eliminated cheating in the online environment:

> [In] online classes, it's harder than when you sit in class. They have a lot of tests and the tests or quizzes are based on the book, and we can have open book quizzes. The professor allows us to open the book and read in between and get the answers. Well that's okay. So basically we are not cheating at that point because we use the book to answer the questions.

Additionally, Ania further expounded that cheating on tests in the online environment is impossible because of time restrictions and open-ended questions:

> We have a quiz, and the quiz is 30 questions and the professor usually wants us to describe what we think. I cannot cheat. I do not have enough time. When you have let's say 15 or 30 minutes even with an open book quiz, you cannot cheat. You cannot even look in the book; you have to know the stuff.

Likewise, Julie expressed similar sentiments about timed exams hindering cheating. "Well I think one thing that helps, the exams I've taken, the quizzes I have taken are timed. I think that's perfect; you have to really know your material. You don't have the time to go surfing or do other things."

Given that faculty allow open book and the tests are often timed, Jaclyn and Ania communicated that they were not certain how a student would cheat on an exam in an online environment because you are taking the test alone:

> I'm here by myself. So you don't see what anyone is doing. (Jaclyn)

> I don't know how to cheat in this environment. In class when you do a quiz, you just look at what someone did. When there's someone next to you, it's easier to just look and see they have answer B or answer C; I'm going to put the same. But online doing a quiz you are on your own. Nobody else is with you in the room who is your colleague from the class. (Ania)

In contrast, over half the students interviewed indicated cheating while taking exams online was easier, because there was no one watching. Ashok noted, "It's easier to cheat online because there is no instructor looking over you. There is no one monitoring what you are doing when you are online." Jessica agreed with Ashok: "I think it's easier to cheat in online classes. The teacher asks you don't open the book but most people do anyway." Similarly, Daryl stated, "Maybe students cheat online because it seems like it is easier. They don't have anybody looking over their shoulder, so they feel like they can get away with it."

Annette viewed the risk of being caught looking at someone else's paper as a deterrent to actually cheating. She noted that in the online environment cheating would be easier since there is no one there to see you:

> When I took my tests, you would have to physically be looking at someone's paper to do it [cheat] so that's a greater risk to being caught; the risk of someone seeing you. I guess I don't see that risk being there in an online class and because of that that would be one reason that I think it would be easier.

Lorraine concurred that cheating online was easier than in a face-to-face class. "It is definitely easier and that kind of makes it hard for organizations like the one I work for to try and combat." Mitesh elaborated on his belief that it was easier to cheat in an online class versus an in-person class:

> Okay online classes, I have a theory about that. When you don't have any face-to-face interaction with an individual when you are working it is easy to get yourself into a position,'okay nobody's looking at me I can do this'. That's probably why online classes kind of give the opportunity for students to think outside the box to do something creative. You can be really creative. When you are in front of your computer at home, you can do some many things so I think there are so many possibilities that students can do cheating.

Although Mitesh stated that he had no knowledge of anybody cheating in the online class, it was just his theory that they would.

Anthony was adamant that cheating online was significantly easier as he described the role of the online communities and academic integrity:

> There are online communities where you can join, pay a fee and get the test for chapters. The actual tests from the publishers and people have already taken, copied and made available to everyone else. I've seen that as a free trial for this particular online class I'm in. It was a Chapter 3 midterm. There were answers for everything. It was a free sample like, "Hey look how accurate this stuff is". I didn't pay; it was a free sample. I just happened to stumble upon this by chance. I was Googling a question and that question hit on this website, and it came up with the entire answer sheet. It's online so there's

> nobody looking over your shoulder; you have a split screen so easy, too easy to cheat; you don't learn anything that way.

Richard did not think that students were any more apt to cheat in the online environment as compared to a traditional classroom and reasoned that faculty may just be unaware that cheating is occurring:

> I think it's the same. I think the only thing that is different about online is there is not a professor anywhere present to see if you would do it or not. Students face to face probably still do it without the teacher knowing.

Most student participants however, agreed that proctoring tests for online courses negates the ability of students to cheat. Ashok thought it was extremely difficult to cheat when faculty required tests to be taken at a testing center:

> If they are doing it online at home, I think it is easier to cheat. If the instructor gives them a test that they can take at home, it's not as if it's in the testing center. It's very difficult to cheat there because they don't let you take anything into the testing room, so it's harder to cheat. If it's a quiz at home, they can cheat easier at home than at the testing center.

Ashok admitted that he did not know of anyone who had cheated online because his online courses required: "Test or quiz can only be taken at the school because getting away with cheating at school is almost impossible." Correspondingly, both Debra and Amber conveyed that although many students believed it was easier to get away with cheating in the online environment because the teachers were not present, this was not the case when proctored exams were required.

> I think that in online courses they don't think they're gonna get caught because it's online. But online if I have to take a test then I have to come in. They won't let me take a test; you have to come in to the testing center. You actually have to physically be there. So you can't cheat online because of the testing. (Debra)

> I think that they feel that it is easier to get away with. The teachers really aren't there to see it happening. A lot of the tests are proctored, so you do have to go to the testing center and do it. So you really can't cheat on the major tests. (Amber)

Daryl envisioned that perhaps only the final would need to be in the testing center. "For test taking, maybe have the tests you would have to show up to the testing center to take them. Maybe people won't cheat if they know at the end of the semester they have to take their final and it's observed." Richard agreed that one way to ensure that the person taking the test was the one registered for the course was to make students go to the testing lab to take tests but that did not help with integrity on assignments:

> You will know online whose taking the class because you make us go to the lab, the testing lab to take our tests. But that doesn't mean all those assignments, how do you know I'm doing this? How do you know it's not my friend doing this? Maybe my tutor's doing it. How will you ever really know?

Assignments. Richard noted there were ample opportunities to remind students when submitting assignments and taking tests that academic integrity was expected by the institution as he shared a suggestion for how this could be done:

> When we are taking our online tests or our quizzes or even the homework that we pass in maybe you have the dialog box that shows up before you pass the work in that's says you are ready to submit this homework or quiz or test you also authorize that you are the one taking this, basically agreeing to the code that you guys have here and I click yes.

Brent reiterated the need for a policy as he remarked, "To prevent online cheating it's helpful to have guidelines for submitting assignments." Lorraine, who currently works for an organization that provides online learning technology, relayed, a deterrent to dishonesty:

> It's a whole separate module. When you sign up for a set of modules for the first time, you are required to go through all these quizzes and attest to it. I'm not going to do this and not going to do that before you can even go into the real e-learning modules. Well it makes it a little bit more involved than a single page and clicking a submit button. You're actually required to answer the questions.

The public forum of discussion boards for assignments makes copying and posting someone else's answer unlikely. Ania thought this element of online learning made cheating online nearly impossible:

> I think it is harder to cheat online because there is no way you can take part of somebody's assignment. You cannot copy it because everybody will read it. DQs are mandatory discussion questions that you have to answer, and you see it on the Blackboard and everybody will see it, so you can't copy somebody's sentences. I think it is hard to cheat online.

Similar to the faculty, Brent indicated it was important to use coursework as a mechanism to combat academic dishonesty "Challenging material is important because you'll get the best out of people." Daryl agreed as he commented on how online assignments could be less systematic:

> Maybe the assignments online are different than the assignments in class. Have the assignments online be more interpretable instead of being straightforward. You could have the assignment for a math class that randomly chooses from a pool of questions instead of the same question so every student has a different assignment.

Additionally, Anthony asserted that cheating could readily be combated if faculty attempted to make classes more interesting and students were encouraged to use their intellect:

> Faculty should be constantly trying to make it interesting, make them [students] use their mind. You don't have to put any thought into doing the mind-numbing assignments.

> Classes are so systematically regulated, you finish Chapter 4 and we do Chapter 5. We do Chapter 5 and we open Chapter 6 and so on. If it was a little more hands on and a little less read the book, fill out the questionnaire. It would have to be like for three quarters of whatever chapter, work the systematic garbage. The last quarter of that is write your thoughts, 500 words on what you think the chapter is about. How it will help you improve? Just something that will make you think. Classes that are a bit more intuitive that use your mind think about this question; that's where it would offer more stimuli for your brain.

Amber was the sole student that asserted that having more assignments would eliminate opportunities to cheat because of the heavy workload:

> The more assignments, you really can't get away plagiarizing. You get caught with that if you do more assignments. If you have more work to do that way the teachers will keep on you if there is more to do, deadlines to meet. You can't get someone else to do it for you since there is too much to do.

Both faculty and student participants identified that students were more apt to try cheating in the online environment because they thought it was easier. However, most student participants did not feel cheating actually was easier online. Several students were not sure how anyone could actually cheat on exams in online classes. The majority of participants, both faculty and students, indicated the accommodations that had been made to course work to enable it to be delivered in the online modality had eliminated the ability for students to cheat.

Conclusion

This chapter examined the themes that emerged during data analysis. First, academic integrity in the online environment can be positively impacted by the lack of the establishment of relationship between students. Second, online students still desire

a relationship with their professors, even if they never meet face to face. A lack of a relationship with professors can negatively impact academic integrity. Finally, this chapter provided insight into various accommodations that have been made for teaching in the online environment that can eliminate the ability for students to engage in academically dishonest behavior.

CHAPTER 5

DISCUSSION

This study investigated how faculty and students can cultivate an environment of academic integrity in the online learning environment. Faculty in the department of CIS and students registered in computer classes were interviewed in order to ascertain their perceptions on what contributed to academic dishonesty online and what could be done to increase academic integrity. Participants shared their experiences with cheating and suggestions on how to modify online classes to enhance academic integrity. This chapter presents an overview of the study followed by a discussion of the findings. Finally, the implications for policy and practice and recommendations for future research are presented.

Overview of Study

Among higher education professionals, there seems to be a general consensus that online education is more conducive to and even promotes more academic dishonesty than traditional face-to-face classes (Baron & Crooks, 2005; Carnevale, 1999; Kennedy et al., 2000). Grijalva et al. (2006) proposed the reason the online environment is perceived as more academically dishonest is because of the lack of direct interaction between students and faculty in web-based courses. Lower levels of

academic dishonesty have been attributed by researchers to the personal relationship between faculty and student which fosters an environment of academic integrity focused on intellectual and academic pursuits (Bowers, 1964; McCabe et al., 2001).

This study explored how a culture of academic integrity can be cultivated online where distance defines the very relationship between faculty and student. The conceptual framework identified for this study was invitational education, which describes how a climate can be created for the learning process. Participants in this study were asked to identify how academic integrity could be increased in online courses. In order to accomplish the investigation the research questions guiding this study were:

1. What does academic integrity mean to faculty and students in an online learning environment?

2. What characteristics of online education may contribute to academic dishonesty?

3. How can a culture of academic integrity be cultivated by faculty and students in online courses?

To gain insight into the cultivation of academic integrity for online courses, seven full-time faculty and fifteen students participated in qualitative interviews. All faculty participants taught in the department of CIS and had taught in both the online and traditional classroom modality. Student volunteers had taken classes in both the online venue as well as traditional classroom within the last two years.

Discussion of Findings

Through the interview process, three major themes emerged: lack of relationships with peers can increase academic integrity in the online environment; inability to form relationships with faculty and interact with professors on demand in the online environment can have a negative impact on academic integrity; and appropriate accommodations that have been made for teaching online can actually eliminate the students' abilities to cheat and, as a result, increase academic integrity.

Lack of Relationships with Peers Can Increase Academic Integrity

In several research studies, the variable found to have the biggest impact on academic dishonesty was peer behavior (Bowers, 1964; McCabe et al., 2001). The participants in this study, both faculty and students, resoundingly agreed that peer relationships have a direct influence on academic dishonesty. Repeatedly, participants asserted that the existence of a relationship between students encouraged academic dishonesty, and, correspondingly, the lack of the existence of relationships in online classes discouraged cheating, thereby enhancing the climate for academic integrity. All seven of the faculty interviewed stated that incidences of cheating often occur between students who have relationships as friends or relatives. As Paul, a faculty member, stated, "relationships between students are not actually about learning but rather about sharing."

Student participants in this study expressed the same views as faculty members that cheating frequently occurs between friends. Research has indicated that academic

dishonesty is actually a learned behavior from observing peers (Bowers, 1964; McCabe et al., 2001). Students who see other students cheating are more apt to engage in cheating behavior (Alschuler & Blimling, 1995, p. 125). In the online environment, students do not actually see their peers engaged in cheating and often do not have the opportunity to form relationships. In this study, student participants admitted that they were not inclined to ask a fellow student in their online class for the answers since they did not know them. Or, as Candace conveyed, "You know that's going to be real tough to cheat in the online classes. It's hard to logon with somebody that's in North Carolina and you are in Illinois and you say "Hey Miss North Carolina can I borrow your work for the day. That's kind of hard." However, students participants also expressed the need for them to be able to receive help from their peers while learning online.

Relationships with Faculty are Important in the Online Environment

Lower levels of academic dishonesty have been attributed by researchers to the personal relationship between faculty and student which fosters an environment of academic integrity focused on intellectual and academic pursuits (Bowers, 1964; McCabe et al., 2001). Twelve of the students interviewed in this study, over 80%, mentioned relationship with faculty as a necessary component to academic integrity. Faculty members need to be available to students even though the environment is online or students will look for other avenues for help. This was exemplified in Jessica's statement: "If you struggle and you can't get the help from school, from

tutoring, or from your teacher, it's very easy to go and say 'Can you help me do this?' 'Can you do this for me'?

In contrast to perspectives of the students in this study and existing literature which indicates the bond between student and faculty as a key factor in instilling a culture of academic integrity (McCabe et al., 2001), only two faculty members mentioned relationships with students as an important component in creating an environment of academic integrity. Two other faculty reflected on the requirement in the online environment for them to be available to students for instructor help than actually fostering a faculty-student bond.

Additionally, research has found that students expect faculty to establish clear expectations about learning and model behavior of integrity (Aluede et al., 2006). The student participants in this study also emphasized the need for faculty to convey in simple terms what cheating means in their class. Annette stated it this way: "I think faculty have a responsibility to create consequences and to definitely set a standard and communicate that standard. As a student, I want to know exactly what the expectations are." In contrast to what students expressed they would like to see, all faculty members included a statement regarding academic integrity in their syllabus, usually the standard institutional statement.

Accommodations for Online Teaching Influences Academic Integrity

Perceptions about the ease of cheating online abound. For example, Kennedy et al. (2000) found that faculty and students believed it was easier to cheat online.

Likewise, faculty and student participants of this study indicated that students were more apt to try cheating in the online environment; however, many participants did not feel that cheating was easier online. Some even stated they were not sure how anyone could actually cheat in online classes. Many participants, both faculty and students, indicated the accommodations that had been made to course work so it could be delivered online had eliminated the ability for students to cheat.

Faculty identified supervised on-site test taking as a mechanism to reduce cheating in the online modality (Baron & Crooks, 2005). For example, proctored test taking is required by six of seven faculty. Additionally, many of the faculty then included the stipulation that overall course grades could be no higher than one grade above the grade earned on the final exam. Effectively a student who cheated on every assignment, earning an "A", and subsequently failed the final exam could earn no higher than a grade of D for the course. Although there is a paucity of research relative to the impact of proctored testing from the students' perspective, almost all students participants indicated having to take tests in a testing center eliminated their ability to cheat.

Implications for Policy and Practice

The requirement for academic integrity in the online modality has become even more crucial due to the Higher Education Opportunities Act (HEOA) of 2008, HR 4137. The HEOA has assigned the responsibility of ensuring that schools have an adequate process to establish the identities of the students participating in distance

learning to the accrediting bodies. In other words, issues surrounding academic dishonesty in the online environment have been raised to the level where it has an impact on accreditation. In this case, the policy for academic integrity online has been defined at an accreditation level. What is now required are the practices and the institutional policies that will support the need for academic integrity in the online environment.

Findings of this study have implications for the preparation of faculty who teach online as well as instructional technology faculty with the responsibility to train faculty on course delivery for online teaching. Faculty who deliver education in the online format could be required to attend training on relationship building in a virtual world. Moreover, faculty could gain insight relative to helping students develop relationships in distance classes that center on supporting each other and not engaging in academic dishonesty. Perhaps, decision makers could purchase standard learning management tools or customize their own to influence how well these tools support learning in the virtual world. Additionally, college administrators may have to re-evaluate the way faculty load hours are measured and compensated because online students do not necessarily benefit from defined faculty office hours, because students expect faculty availability instantaneously. However, this may not be feasible given the multiple demands on faculty time and perhaps the availability of faculty should be addressed during the first class session.

Another policy that could be beneficial in the online environment is that, in addition to including the institution's academic integrity policy on course syllabi,

faculty provide a personalized video statement regarding what constitutes cheating in their class. As indicated by students in this study, hearing from their instructor directly about academic integrity expectations would be extremely beneficial. Faculty could also include a statement about office hours and subsequently ensure they are available via e-mail and telephone. This practice would support the students' need for clear direction about cheating but could also serve as a mechanism for building the student-faculty relationship.

Findings from this study also indicated that one of the formal policies that could be put in place is the requirement for proctored testing. Online students could be required to take either all major exams or just final exams at a proctored location, at the institution or a licensed facility. Additionally, the use of randomized test banks for exams might prove beneficial to minimize incidents of cheating.

Curriculum policies in CIS Science programs could mandate that assignments in textbooks not be used for homework or exams. The ready availability of the solutions to assignments and tests may render these tools useless in an assessment of students' learning. Perhaps, faculty may consider modifying assignments so they are customized for each student, thereby engaging the student in the learning process in an attempt to minimize academically dishonest behaviors.

Academic dishonesty will always be a challenge in any learning environment. However, as online education participation continues to increase, campus leaders and faculty must take proactive steps to ensure the integrity of their online education programs. Efforts should include but are not limited to appropriate training of faculty,

selection of learning management systems that are conducive to learning in the online environment, setting and communicating academic integrity policies that have consequences, and modifying pedagogical practices to encourage a scholarly environment by minimizing opportunities to cheat.

Revised Conceptual Framework for Academic Integrity Online

Invitational education theory was chosen as a basis for this study because of the alignment of the four basic tenets of invitational education theory: respect, optimism, trust, and intentionality (Stanley et al., 2004) and the five fundamental values identified as necessary for an environment of academic integrity: honesty, trust, fairness, respect, and responsibility as defined by the Center for Academic Integrity (Dodd, 2010). Additionally, invitational education is about the creation of a desired learning environment, in this study academic integrity. When comparing the themes identified in this study to the conceptual framework of invitational education and its applicability to online education some interesting findings arise.

The theory of invitational education focuses on understanding communication patterns that exist in every human environment and how communicating caring and appropriate messages bring forth the best in human potential (Stanley et al., 2004). The first two emergent themes of this study clearly center on communications, or lack thereof, by the participants in online education. Academic integrity was found to be enhanced by eliminating communications between students participating in online learning. But academic integrity was also negatively influenced by the lack of

communication between students and faculty in the online world. Consequently, the initial conceptual framework (see Figure 1) for this study requires modification.

The five important factors in invitational education theory are identified as the 5 Ps: people, place, policies, programs and processes (Stanley et al., 2004). Comparing the first P, people, to the themes identified in this study shows definitive alignment. One of the most powerful indicators of student achievement is the relationship among people. Students who have good relationships with their teachers value their education more highly than those with poor relationships (Stanley et al., 2004). The majority of students in this study reiterated the necessity of feeling as if they had a relationship with their professor and that the professor was available to them, Candace put it most succinctly: "You need to have a personal relationship. We are people." Correspondingly, as depicted in Figure 2, the people factor has been enlarged and bolded to indicate its importance relative to the other 4 Ps. Additionally, the people factor has been subdivided into two components, peers and faculty. The peers component has been shaded gray as an indication of the negative impact on academic integrity that peer relationships may have.

The second P is about place, or the physical environment where learning takes place. The environment must be one in which people want to learn, with a focus on aesthetics, functionality, and efficiency (Stanley et al., 2004). Since this study was about learning online, most participants did not comment on place; therefore, the place circle as been reduced in size. However, because an accommodation that was

mentioned by participants for improved academic integrity online was required proctored testing, the component of place remains as part of the model.

The third P, policies, refers to the rules and regulations that influence the daily functions of the educational environment (Stanley et al., 2004). Students in this study repeatedly mention the need for academic integrity policies to be clear and well communicated. All faculty members included academic integrity statements in their syllabi. Policies are the mechanism by which the message about the value, ability, and self-directedness of participants is conveyed (Stanley et al., 2004). The circle identifying policies has been enlarged and bolded to indicate its importance to academic integrity in the online environment.

The fourth P is for programs. No findings related to programs were revealed. However, this does not mean that programs should be removed from the model but warrants future research.

Processes, the final P, defines the way the other four Ps function. Processes should be collaborative and cooperative, with continuous communication between students and teachers (Stanley et al., 2004). Likewise, participants conveyed a similar sentiment. The online learning environment should facilitate a collaborative environment with students being able to have access to faculty for communication relative to course assignments. Several students also mentioned the ability to receive help, be it from peers or faculty, as a way to create an environment of integrity. Julie explained that in the online classes, the discussion boards with her peers provide

necessary help without giving the answers: “If you’re not getting it . . . , for example, I had that one time doing subclasses. Being able to ask questions online helped.”

The remainder of the framework would remain the same. However, the small number of participants in this study necessitates the need for further study prior to any additional modifications to the model.

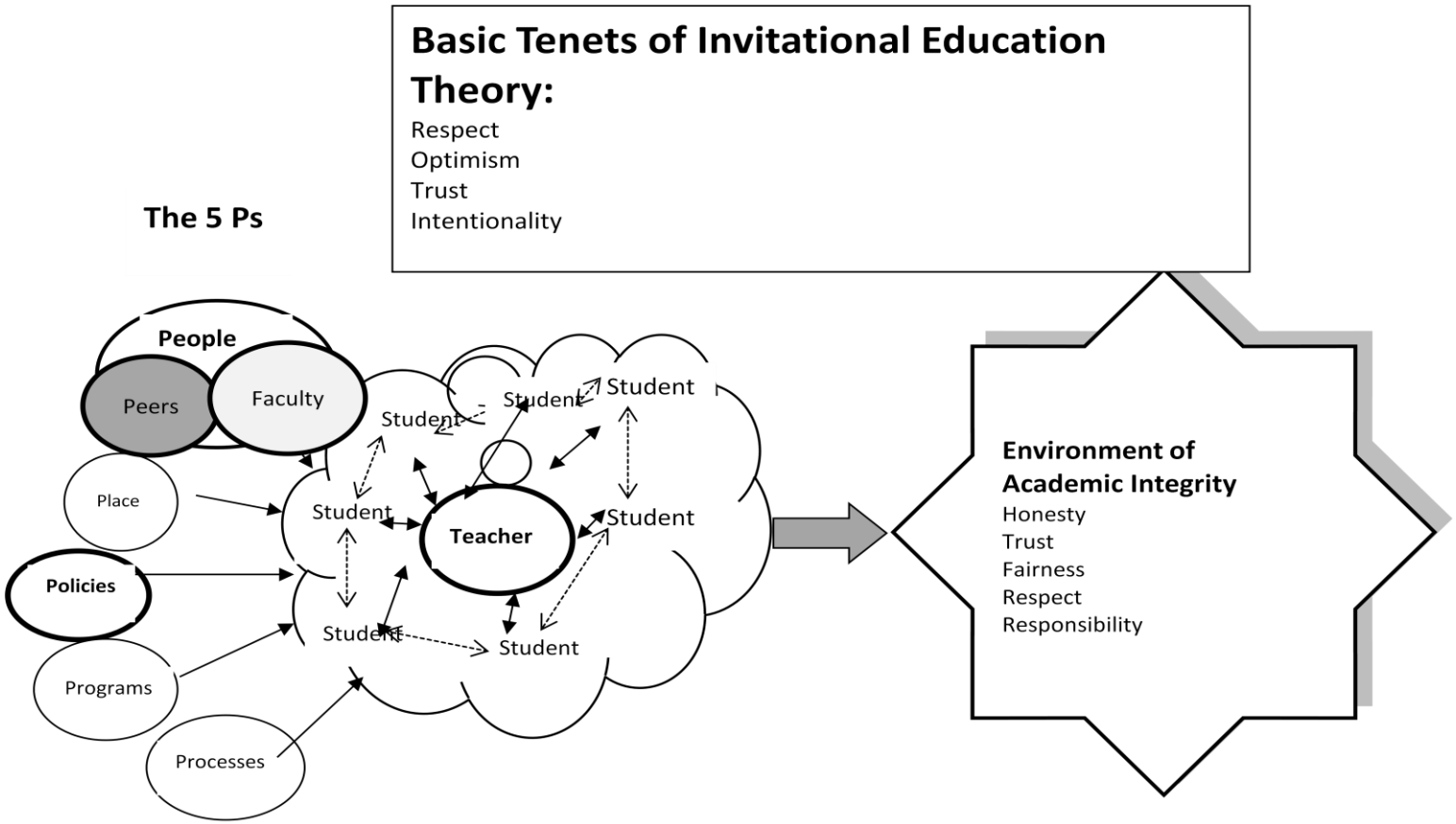

Figure 2. - Revised Conceptual Framework- Invitational Education in the Online Environment

Future Research Recommendations

As online education continues to grow, the cultivation of an environment of academic integrity will be a critical factor in the success of colleges' online offerings. There are a myriad of additional avenues for future research that stem from the findings of this study.

This study found that academic integrity is improved by lack of the formation of relationships between students. If academic integrity in the online environment is increased when relationships are nonexistent between students, in essence eliminating students' social integration within the collegiate environment, there could be implications for students' college experience. Thus research on the experience of students in online courses could be insightful relative to what influences their persistence and if it differs from students in traditional classes.

The majority of student participants in this study were nontraditional aged. However, traditional-aged students who are now enrolling in classes are frequently comfortable with social networking websites like Face Book. Research could be conducted on the implications for the formation of online student relationships when students are comfortable at relationship building with social networking tools to discern if these students espouse similar views. Also, research could examine how social networking impacts the faculty-student relationship.

Numerous student participants mentioned the importance of feeling connected to faculty while learning online. Thus, further research on what makes students feel

connected to faculty in the online environment would be beneficial. Additionally, the majority of faculty participants of this study did not mention the faculty-student relationship as a component impacting academic integrity and further research could reveal if this is similar across faculty in other disciplines and institutional types. Thus a quantitative study could provide a wealth of data on this topic.

Frequently, an element of school honor codes is the ability for students to self-proctor exams. Therefore at these institutions there is really no difference between distance students who complete exams at home and students taking tests at school. Additional research on academic integrity in the online environment for schools with honor code would prove insightful.

Further research could also be conducted regarding the inclusion of specific and personalized academic integrity guidelines from professors to see if it makes a difference in incidents of academic dishonesty. For example, how does the inclusion of a video-recorded message from the professor on what is considered cheating in their class have an impact on academically dishonest behavior?

Finally, although almost all students interviewed said they believe that most students feel that it is easier to cheat online, they, themselves, had not experienced this reality mainly because of proctored testing. This raised several potential research topics. Primarily, is the requirement of onsite proctored testing onerous enough to deter potential online students from enrolling in classes? Also, is the model of proctored testing where you are the sole student from your class engaged in taking an exam at that location an easy deterrent to panic cheating? Panic cheating occurs when

a student suddenly realizes that the answer is not known on a test and looks around the classroom for help and to see the answer another student's paper (Grijalva et al., 2006). What if any are the implications for testing in traditional classes? Could cheating be positively influenced by students who are in the same class not taking exams during scheduled class times, but rather as individuals at a testing facility? These questions necessitate further inquiry and will be useful as more courses utilize online learning.

Conclusion

By focusing on academic integrity in the online environment as perceived by both faculty and students in CIS, traditional components that normally had an impact on academic integrity were reinforced. These included student-faculty relationship and the setting of clear expectations of academic honesty. However, some new elements, such as lack of student relationships and online learning accommodations, were revealed. The themes discovered in this study not only necessitate the need for future research but also support the need for discussions on academic integrity as institutions continue to increase their online course offerings

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APPENDICES

APPENDIX A

FACULTY E-MAIL RECRUITMENT LETTER

Dear Computer Information Systems Faculty:

I would appreciate your assistance with a research project designed to explore the cultivation of academic integrity in online learning environment. I am currently a doctoral candidate in the Department of Counseling, Adult and Higher Education at Northern Illinois University, and my dissertation study investigates this significant component of online education. Since my study focuses on faculty in computer science who have taught in the online environment and traditional classroom setting, your participation is critical to the success of my research project.

I will be contacting you in the next two weeks to set up an opportunity for us to meet so I can ask you some questions. The interview should take approximately 60 to 90 minutes and will be audio taped. I will share the transcript from the interview with you upon completion. At that time, you will have the opportunity to identify any errors in the transcription.

I would also request that you ask your students if any of them would be willing to be interviewed for this project. In order to be eligible a student needs to have taken both a traditional face to face class and an online class within the last two years. The students can either inform you of their willingness to participate and provide their contact information to be forwarded to me, or contact me directly at rmyers236@yahoo.com. I will be happy to conduct these interviews by phone for the convenience of your distance learning students.

This project has been reviewed by the Office of Research Compliance of Northern Illinois University (815) 753- 8588.

Thank you in advance for your participation in this effort.

Sincerely,

Project Contact Person:
Regan Myers
Doctoral Candidate
Northern Illinois University
Office Phone: (847) 925-6826
Email: rmyers@harpercollege.edu

APPENDIX B

INFORMED CONSENT FOR FACULTY

I agree to participate in the research project titled Academic Integrity in Online Learning Environment being conducted by Regan Myers, a graduate student at Northern Illinois University. I have been informed that the purpose of the study is to explore how faculty and students can cultivate an environment of academic integrity in the online learning environment.

I understand that if I agree to participate in this study, I will be asked to respond to questions regarding academic dishonesty and integrity during a one on one interview that should take about 90 minutes. I understand that my responses to the interview questions will be audio taped.

I am aware that my participation is voluntary and may be withdrawn at any time without penalty or prejudice, and that if I have any additional questions concerning this study, I may contact Regan Myers at (847) 925-6826 or her faculty advisor at Northern Illinois University, Dr. Wei Zheng at (815) 753-9314. I understand that if I wish further information regarding my rights as a research subject, I may contact the Office of Research Compliance at Northern Illinois University at (815) 753-8524.

I understand that the intended benefits of this study are to help further research about academic integrity in the online learning environment by identifying how faculty and students can contribute to the cultivation of an environment conducive for academic integrity.

I have been informed that there are no foreseeable risks or discomforts associated with my participation in this study. I understand that all information gathered during the interview will not be attributed directly to me and my identity will be kept confidential and will only be known to the researcher.

I understand that my consent to participate in this project does not constitute a waiver of any legal rights or redress I might have as a result of my participation, and I acknowledge that I have received a copy of this consent form.

Signature of Subject Date

I also consent to the recording of the interview.

Signature of Subject Date

APPENDIX C

FACULTY REQUEST FOR STUDENT VOLUNTEERS

A doctoral student, from the Department of Counseling, Adult and Higher Education at Northern Illinois University, Regan Myers is looking for student volunteers. Her topic of research is academic integrity in the online learning environment. Your participation will entail an hour interview. This interview can be conducted by telephone if you so desire. You will be asked questions about academic dishonesty and cheating. In order to volunteer for this study you need to have taken classes both online and in the classroom in the last two years. If you are interested in participating you can provide your name and contact information directly to me or contact Regan at [phone number] or [e-mail address].

APPENDIX D

STUDENT E-MAIL RECRUITMENT LETTER

Dear Computer Information Science Student:

I would appreciate your assistance with a research project designed to explore the cultivation of academic integrity in online learning environment. I am currently a doctoral candidate in the Department of Counseling, Adult and Higher Education at Northern Illinois University, and my dissertation study investigates this significant component of online education. Since my study focuses on students taking computer science classes, who have taken classes in the online environment and traditional classroom setting, your participation is critical to the success of my research project.

I will be contacting you in the next two weeks to set up an opportunity for us to meet, so I can ask you some questions. The interview should take approximately 60 minutes and will be audio taped. I will share the transcript from the interview with you upon completion. At that time, you will have the opportunity to identify any errors in the transcription. This interview can be conducted over the phone if this would be more convenient for you.

This project has been reviewed by the Office of Research Compliance of Northern Illinois University (815) 753-8588

Thank you in advance for your participation in this effort.

Sincerely,

Project Contact Person:
Regan Myers
Doctoral Candidate
Northern Illinois University
Office Phone: (847) 925-6826
Email: rmyers@harpercollege.edu

APPENDIX E

INFORMED CONSENT FOR STUDENTS

I agree to participate in the research project titled Academic Integrity in Online Learning Environment being conducted by Regan Myers, a graduate student at Northern Illinois University. I have been informed that the purpose of the study is to explore how faculty and students can cultivate an environment of academic integrity in the online learning environment.

I understand that if I agree to participate in this study, I will be asked to respond to questions regarding academic dishonesty and integrity during a one on one interview that should take about 90 minutes. I understand that my responses to the interview questions will be audio taped.

I am aware that my participation is voluntary and may be withdrawn at any time without penalty or prejudice, and that if I have any additional questions concerning this study, I may contact Regan Myers at (847) 925-6826 or her faculty advisor at Northern Illinois University, Dr. Wei Zheng at (815) 753-9314. I understand that if I wish further information regarding my rights as a research subject, I may contact the Office of Research Compliance at Northern Illinois University at (815) 753-8524.

I understand that the intended benefits of this study are to help further research about academic integrity in the online learning environment by identifying how faculty and students can contribute to the cultivation of an environment conducive for academic integrity.

I understand that I will be asked questions during the interview process regarding either my own participation in academically dishonest behavior or knowledge of friends' academic dishonest behavior. I understand that all information gathered during the interview will not be attributed directly to me and my identity will be kept confidential and will only be known to the researcher. However, I understand there is a potential risk of breach of confidentiality of participants' responses. In order to mitigate this risk I understand that once the interview has been transcribed the actual physical recording of the interview will be erased eliminating any linkage between my identity and the interview responses.

I understand that my consent to participate in this project does not constitute a waiver of any legal rights or redress I might have as a result of my participation, and I acknowledge that I have received a copy of this consent form.

Signature of Subject Date

I also consent to the recording of the interview.

Signature of Subject Date

APPENDIX F

INTERVIEW QUESTIONS FOR FACULTY

- What does academic dishonesty in the online environment mean to you?
- What does academic integrity in the online environment mean to you?
- What do you think contributes to academic dishonesty in face-to-face classes?
- What do you think contributes to academic dishonesty in online classes?
- Is this unique to the online classes?
- Among the factors you identified as contributing to academic dishonesty, what could be changed to encourage more academic integrity in online classes?
- Give me an example when you suspected a student of engaging in academic dishonesty in a traditional class how you addressed it?
- Give me an example when you suspected a student of engaging in academic dishonesty in an online class how you addressed it?
- Could this incident have been prevented; if so, how?
- How do you define faculty's responsibility in creating an environment of academic integrity?
- What if any do you see as the student's role in creating an environment of academic integrity?

APPENDIX G

INTERVIEW QUESTIONS FOR STUDENTS

- What does academic dishonesty in the online environment mean to you?
- What does academic integrity in the online environment mean to you?
- What do you think contributes to academic dishonesty in face-to-face classes?
- What do you think contributes to academic dishonesty in online classes?
- Is this unique to the online classes?
- Among the factors you identified as contributing to academic dishonesty, what could be changed to encourage more academic integrity in online courses?
- Can you give me an example of a time that either you or a friend engaged in some form of academic dishonesty in a traditional class?
- Can you give me an example of a time that either you or a friend engaged in some form of academic dishonesty in an online class?
- What if anything could have been done to prevent this incident of academic dishonesty in the online environment?
- What do you think is faculty's responsibility in creating an environment of academic integrity?
- What role do you think students play in creating an environment of academic integrity?

APPENDIX H

IRB APPROVAL

NORTHERN ILLINOIS UNIVERSITY

February 9, 2010

MEMORANDUM

OFFICE OF RESEARCH COMPLIANCE
INSTITUTIONAL REVIEW BOARD
DIVISION OF RESEARCH AND GRADUATE STUDIES
DEKALB, ILLINOIS 60115-2864
(815) 753-8588
FAX (815) 753-1631
E-MAIL researchcompliance@niu.edu
WEB www.grad.niu.edu/orc

TO: Regan Myers
Department of Counseling, Adult & Higher Education
236 N Hickory Ave.
Bartlett IL 60103

FR: Christopher P. Parker, Vice Chair
Institutional Review Board #1

RE: Graduate student research involving the use of human subjects for the project titled ***Academic integrity in the online learning environment***

This is to inform you that the above-named application for human subjects research has been approved by Subcommittee Review. The rationale for expedited review is section 45 CFR 46.110 and 21 CFR 56.110, Categories 6 & 7. Although you may begin data collection immediately, please be advised that federal regulations require that the Institutional Review Board (IRB) be made aware of all research activities that place human subjects at maximum or minimum risk. Your application will be brought to the attention of the IRB at its next meeting.

This approval is effective for one year from the date of this letter. I have enclosed a date-stamped copy of the approved consent form for your use. NIU policy requires that informed consent documents given to subjects participating in non-exempt research bear the approval stamp of the NIU IRB. **This stamped document is the only consent form that may be photocopied for distribution to study participants.** If your project will continue beyond that date, or if you intend to make modifications to the study, you will need additional approval and should contact the Office of Research Compliance for assistance. **Continuing review of the project, conducted at least annually, will be necessary until you no longer retain any identifiers that could link the subjects to the data collected.**

It is important for you to note that as a research investigator involved with human subjects, **you are responsible for ensuring that this project has current IRB approval at all times, and for retaining the signed consent forms obtained from your subjects for a minimum of three years after the study is concluded**. If consent for the study is being given by proxy (guardian, etc.), it is your responsibility to document the authority of that person to consent for the subject. Also, the committee recommends that you include an acknowledgment by the subject, or the subject's representative, that he or she has received a copy of the consent form. In addition, you are required to promptly report to the IRB any injuries or other unanticipated problems or risks to subjects and others. Please accept my best wishes for success in your research endeavors.

CPP/jeg

cc: F. Giordano
W. Zheng
C. Law (Grad School)
Institutional Review Board members
ORC HS10-0021

Informed Consent: Academic Integrity in Online Learning Environment

I agree to participate in the research project titled Academic Integrity in Online Learning Environment being conducted by Regan Myers, a graduate student at Northern Illinois University. I have been informed that the purpose of the study is to explore how faculty and students can cultivate an environment of academic integrity in the online learning environment.

I understand that if I agree to participate in this study, I will be asked to respond to questions regarding academic dishonesty and integrity during a one on one interview that should take about 90 minutes. I understand that my responses to the interview questions will be audio taped.

I am aware that my participation is voluntary and may be withdrawn at any time without penalty or prejudice, and that if I have any additional questions concerning this study, I may contact Regan Myers at (847) 925-6826 or her faculty advisor at Northern Illinois University, Dr. Wei Zheng at (815) 753-9314. I understand that if I wish further information regarding my rights as a research subject, I may contact the Office of Research Compliance at Northern Illinois University at (815) 753-8524.

I understand that the intended benefits of this study are to help further research about academic integrity in the online learning environment by identifying how faculty and students can contribute to the cultivation of an environment conducive for academic integrity.

I have been informed that there are no foreseeable risks or discomforts associated with my participation in this study. I understand that all information gathered during the interview will not be attributed directly to me and my identity will be kept confidential and will only be known to the researcher.

I understand that my consent to participate in this project does not constitute a waiver of any legal rights or redress I might have as a result of my participation, and I acknowledge that I have received a copy of this consent form.

Signature of Subject Date

I also consent to the recording of the interview.

Signature of Subject Date

Informed Consent for Students: Academic Integrity in Online Learning Environment

I agree to participate in the research project titled Academic Integrity in Online Learning Environment being conducted by Regan Myers, a graduate student at Northern Illinois University. I have been informed that the purpose of the study is to explore how faculty and students can cultivate an environment of academic integrity in the online learning environment.

I understand that if I agree to participate in this study, I will be asked to respond to questions regarding academic dishonesty and integrity during a one on one interview that should take about 90 minutes. I understand that my responses to the interview questions will be audio taped.

I am aware that my participation is voluntary and may be withdrawn at any time without penalty or prejudice, and that if I have any additional questions concerning this study, I may contact Regan Myers at (847) 925-6826 or her faculty advisor at Northern Illinois University, Dr. Wei Zheng at (815) 753-9314. I understand that if I wish further information regarding my rights as a research subject, I may contact the Office of Research Compliance at Northern Illinois University at (815) 753-8524.

I understand that the intended benefits of this study are to help further research about academic integrity in the online learning environment by identifying how faculty and students can contribute to the cultivation of an environment conducive for academic integrity.

I understand that I will be asked questions during the interview process regarding either my own participation in academically dishonest behavior or knowledge of friends' academic dishonest behavior. I understand that all information gathered during the interview will not be attributed directly to me and my identity will be kept confidential and will only be known to the researcher. However, I understand there is a potential risk of breach of confidentiality of participants' responses. In order to mitigate this risk I understand that once the interview has been transcribed the actual physical recording of the interview will be erased eliminating any linkage between my identity and the interview responses.

I understand that my consent to participate in this project does not constitute a waiver of any legal rights or redress I might have as a result of my participation, and I acknowledge that I have received a copy of this consent form.

Signature of Subject Date

I also consent to the recording of the interview.

Signature of Subject Date