



2019

# Cultivating out of class communication through Facebook

Daniel M. Galloway

*University of the Pacific*, [dmgalloway1@gmail.com](mailto:dmgalloway1@gmail.com)

Follow this and additional works at: [https://scholarlycommons.pacific.edu/uop\\_etds](https://scholarlycommons.pacific.edu/uop_etds)



Part of the [Communication Commons](#)

---

## Recommended Citation

Galloway, Daniel M.. (2019). *Cultivating out of class communication through Facebook*. University of the Pacific, Thesis. [https://scholarlycommons.pacific.edu/uop\\_etds/3545](https://scholarlycommons.pacific.edu/uop_etds/3545)

This Thesis is brought to you for free and open access by the Graduate School at Scholarly Commons. It has been accepted for inclusion in University of the Pacific Theses and Dissertations by an authorized administrator of Scholarly Commons. For more information, please contact [mgibney@pacific.edu](mailto:mgibney@pacific.edu).



CULTIVATING OUT OF CLASS COMMUNICATION THROUGH FACEBOOK

by

Daniel M. Galloway

A Thesis Submitted to the

Graduate School

In Partial Fulfillment of the

Requirements for the Degree of

MASTER OF THE ARTS

College of the Pacific  
Communication

University of the Pacific  
Stockton, California

2019

CULTIVATING OUT OF CLASS COMMUNICATION THROUGH FACEBOOK

by

Daniel M. Galloway

APPROVED BY:

Thesis Advisor: Qingwen Dong, Ph.D.

Committee Member: Teresa Bergman, Ph.D.

Committee Member: Marlin Bates, Ph.D.

Department Chair: Marlin Bates, Ph.D.

Dean of Graduate School: Thomas Naehr, Ph.D.

## ACKNOWLEDGEMENTS

Thank you to all of those that helped encourage me to complete this thesis and kept my passion for education growing. Thank you to my wife, Anna, for supporting me through the years of hard work and procrastination. Thank you to Dr. Jon Chamber for transforming the way that I think about communication education for the better. Thank you to the “Nerd Den” for keeping the process fun and inspiring from beginning to end. Thank you Chace and Carter for continually encouraging me to, “go to school, get a job, and earn a Master’s degree.” Final thanks to all of my students, past, present, and future, who make all of the hard work worth it.

## Cultivating Out Of Class Communication through Facebook

### Abstract

By Daniel M. Galloway

University of the Pacific  
2019

This study investigates a possible link between a students' willingness to engage in out of class communication (OCC) with an instructor and the level of mediated immediacy that the instructor presents through his/her online presence. The hypotheses were that students viewing a Facebook page would be more willing to engage in OCC than those viewing an institutional web page with low levels of mediated immediacy and that students viewing a Facebook page would also be more willing to engage in OCC with their instructor for relationship focused reasons than those who viewed an institutional web page. While both hypotheses were found to be false, this study uncovered a correlation which suggests that the institutional web page creates a higher willingness to engage in OCC for task-focused reasons than a Facebook page and invites further research into the topic.

## TABLE OF CONTENTS

LIST OF TABLES .....	7
CHAPTER	
1. The Problem.....	8
Statement of the Problem.....	8
Purpose of the Thesis .....	9
Definition of Key Terms.....	9
Significance of the Study .....	10
2. Review of the Literature .....	12
Social Presence as the Theoretical Framework .....	12
A Need for New Technology in Teaching.....	13
Current Uses of Social Media in Teaching.....	14
Teacher Immediacy.....	18
Computer Mediated Communication and Immediacy .....	23
Out of Class Communication.....	24
Summary .....	26
3. Method .....	29
Variables .....	29
Subjects.....	30
Design .....	30
Instruments.....	31
4. Results.....	32
5. Discussion and Conclusions .....	34

Implications.....34

Limitations.....35

Suggestions for Future Research .....36

Conclusions.....37

REFERENCES .....38

APPENDIX

A. ENGAGEMENT QUESTIONNAIRE .....44

## LIST OF TABLES

## Table

1. Mediated Immediacy Operationalization.....	31
2. Mean Willingness to Engage Scores.....	32

## **Chapter 1: The Problem**

### **Statement of the Problem**

Fink (2013) makes the argument that effective teachers need to constantly update their techniques in order to remain great teachers. Part of staying current and effective in the classroom is maintaining high levels of teacher immediacy, because teacher immediacy provides many benefits for enhancing the dynamics of classroom pedagogy (Ellis, 1995; Fusani, 1994; Jaasma & Koper, 1999; Myers & Knox, 2001; Witt, Wheelless, & Allen, 2004). With the advent of recent innovations in technology for classroom instruction, the concept of mediated immediacy has emerged in the communication education literature as a potential technique for enhancing teacher immediacy (O'Sullivan, Hunt, & Lippert, 2004). Research on mediated immediacy has evolved during the past several years and has demonstrated that this teaching technique is associated with high levels of student motivation, affective learning, perceived teacher credibility, and cognitive learning (Baker, 2010; Kelly & Fall, 2011; Mazer, Murphy, & Simonds, 2007, 2008; Schutt, Allen, & Laumakis, 2009).

Another area of communication education literature that addresses methods of enhancing student learning is that of out of class communication. Student engagement in out of class communication with an instructor has been found to have a positive correlation between the frequency and length of student-instructor interaction and the student's motivation, student's academic self-concept, student's learning, student's commitment to the institution, academic performance and perceived personal growth (Komarraju, Musulkin, & Bhattacharya, 2010; Lau, 2003; Pascarella & Terenzini, 1978; Strauss & Volkwein, 2004). However, students are beginning to move away from the traditional form of face to face, out of class communication in

an instructor's office towards mediated forms of interaction (Zhao, Ahn, Meyers, Timmerman, & Fonner, 2012). Thus, instructors are faced with the problem of promoting out of class communication through non-traditional means. This problem is amplified for those instructors who teach online-only courses and must rely on mediated-immediacy cues because they are not given the opportunity to display traditional immediacy cues.

Past research has found that many college students frequently use the computer-mediated communication mode of Facebook (Junco, 2012, 2013) and that Facebook is designed in such a way that allows for high levels of teacher immediacy cues to be displayed (O'Sullivan et al., 2004). However, no study has been conducted on the relationship between the use of mediated immediacy by instructors and its potential to cultivate out of class communication with students. Thus, this study seeks to fill a gap in the literature on the potential benefits of mediated immediacy.

### **Purpose of the Thesis**

This study investigates the impact of mediated immediacy displayed by an instructor on a Facebook page versus an institutional web page on students' willingness to engage in out of class communication with that instructor.

### **Definition of Key Terms**

**Out of class communication.** Fusani (1994) described OCC as student-initiated visits during office hours, conversations before or after class, and informal meetings on campus between students and instructors. However, more recent research has included computer mediated interactions in this definition (Knapp, 2010; Zhao et al., 2012). This study is concerned primarily with computer mediated OCC, thus the definition of OCC for this study is any contact between students and teachers outside of scheduled class time.

**Mediated immediacy.** Pioneers of the field of mediated immediacy define the term as “communicative cues in mediated channels that can shape perceptions of psychological closeness between interactants” (O'Sullivan et al., 2004, p. 471). O'Sullivan et al. (2004) further explain that mediated immediacy can be thought of as “a language of affiliation” (p. 471).

**Social networking sites.** Social networking systems are defined by Boyd and Ellison (2007) as, “web-based services that allow individuals to (1) construct a public or semi-public profile within a bounded system, (2) articulate a list of other users with whom they share a connection, and (3) view and traverse their list of connections and those made by others within the system” (p. 211).

**Facebook.** Facebook is a social networking site that was launched to the public in late 2006 (Boyd & Ellison, 2007) and has grown quickly in popularity (Cheung & Vogel, 2011).

### **Significance of the Study**

This study is significant based on several factors, including the continuing rise of social media and its pervasiveness in schools. Students already make ample use of Facebook (Junco, 2012, 2013) and entire academic journals such as *Computers and Education* are dedicated to the study of technology in the classroom. This study addresses an issue that is pertinent to the current state of technology and learning as well as the presence of Facebook in college students' lives.

The study relates to a wide population of college students. According to a 2012 government survey, there are approximately 19.9 million college students enrolled in the United States ("CPS October 2012," 2012). The results of this study will have implications for the learning for many college students and thus has significance for an immensely wide population. College students are the future of our society. It is crucial to invest in the educations of college

students because they will hold significant roles in society upon their graduations. The better educated these students are, the more we can expect them to thrive as members of society.

## Chapter 2: Review of the Literature

### Social Presence as the Theoretical Framework

This study will use social presence as the theoretical frame. Short, Christie, and Williams (1976) defined social presence as “the degree of salience of the other person in the interaction and the consequent salience of the interpersonal relationships” (p. 65). In other words, social presence refers to how much it feels like the person communicating is fully focused on the other individual. Social presence is similar to the construct of immediacy, which has been defined as the degree of psychological closeness between communicators (Mehrabian, 1971). While immediacy is usually studied in face to face settings, the concept of social presence can include any interactions. Short et al. have argued that different types of interaction allowed for different levels of social presence, with face to face interaction providing the highest levels of social presence. They posited that some people perceive some types of media as having high levels of social presence (such as television) and others to have low levels of social presence (such as radio). Gunawardena (1995) looked into a link between social presence and computer mediated communication and found that computer mediated channels can also promote higher levels of social presence, although he noted that a given computer mediated communication channel can be used to display either high social presence or low social presence depending on how the communicator made use of the channel to project his or her identity. The present study tested whether the social presence portrayed through Facebook has effects on out of class communication that are similar to the effects of the face to face construct of immediacy on out of class communication.

## **A Need for New Technology in Teaching**

As technology is constantly updated, instructors are tasked with keeping up with the changes to meet the needs of their students (Fink, 2013). Recent updates in technologies, such as the invention and rise of social networking sites, have created a potentially useful new tool for teachers to use to meet these needs. It is possible that Facebook can be used as an effective means of OCC between students and instructors if most students have a high level of familiarity with Facebook. According to Alexa traffic rank statistics (Alexa, 2018) Facebook is in the top three most visited websites in the world. It is pertinent to note the amount of usage of social media by students. Recent student self-report data showed that approximately 90% of college students use social networking sites on a daily basis (Smith and Caruso, 2010). A supporting study by Junco (2012) used self-report data to establish that among the students using social networking, the average time spent on Facebook was around 100 minutes per day. However, skeptical of self-report data, Junco (2013) conducted an additional study that tracked usage and concluded that actual time spent on social networking was closer to 30 minutes per day. Regardless of which measure is reported, the outcome remains that a large majority of students use Facebook daily and use it for a significant amount of time. The conclusions that 90% of college students use Facebook daily and that approximate daily use is 30 minutes per day suggest a high level of student familiarity with the platform that justifies looking further into possible educational uses.

A survey by Jong, Lai, Hsia, Lin, & Liao (2014) explored the possible educational uses of Facebook as compared to Blackboard and an e-learning website (CYCU i-learning Internet Academy). This survey explored student perceptions of use of the three platforms for which is better for an instructor to use to “keep you posted,” sharing instructional resources, and

participating in course interactions outside of class time. The results were that Facebook was the preferred platform in all cases. 65% of students preferred Facebook over other platforms for an instructor to keep them posted. 58% of those surveyed thought Facebook to be the best way to share instructional resources, and 76% of the participants indicated that they preferred Facebook over the other platforms and a method for participating in course interactions. The above data shows that students use Facebook frequently and even prefer using it for school over other online platforms such as Blackboard.

### **Current Uses of Social Media in Teaching**

Research has demonstrated that students make ample use of social media sites. However, it is important to know what goals the students have in mind when they are using Facebook because several past studies have shown that what a technological tool is used for is a better predictor of its effects than simply how much it is used (Cotten, 2008; Ellison, Steinfield, & Lampe, 2007; Heiberger & Harper, 2008; Pempek, Yermolayeva, & Calvert, 2009). These studies examined tools such as the internet, cell phones, and Facebook and concluded in various ways that simply making use of a certain technology does not provide benefits. This makes sense because any communication tool can be used in many ways. For example, simply engaging in interpersonal communication could either increase happiness or increase stress depending on the topic and mood of the conversation.

Since the way a tool is used is a strong indicator of its effects, the question becomes, “What are students using Facebook for in relation to school?” An ethnographic study by Selwyn (2009) searched for themes in the Facebook wall posts by college students. Selwyn embedded himself in the publicly available postings of the Facebook community of a UK university with approximately 25,000 students enrolled. He spent 5 months regularly viewing and collecting

publicly available information that students posted to each other's Facebook wall, which is a public facing portion of a profile. Although Selwyn noted that university related content was a very small percentage of the sum of Facebook engagement by the students he observed, five academic related themes emerged from the study: "(1) recounting and reflecting on the university experience; (2) exchange of practical information; (3) exchange of academic information; (4) displays of supplication and/or disengagement; and (5) 'banter' (i.e. exchanges of humour and nonsense)" (p. 161). These educational uses of Facebook show a high level of promise for formalized integration of Facebook into an academic setting. Since academic use of Facebook is a small portion of total use according to Selwyn, it would likely require instructor intervention in order to increase the use of Facebook for academic purposes.

It seems that some instructors have recognized the prevalence of social media use by their students and have sought to integrate social media into the learning process. Dyrud (2012) surveyed several teachers to find techniques and specific assignments being used to integrate social media into learning settings. One teacher had students analyze the messages that were being sent over social media and relate the content back to the gender roles that were being discussed in class. Another teacher more tightly integrated the use of social media into class by having students contact an organization through Facebook and work with that organization to improve the organization's public relations through Facebook. Even though no conclusions about social media or Facebook's effectiveness were reached during this study, Dyrud added data to suggest possible ways that Facebook can be used academically such as in classroom discussion.

Even further integration of social media into classroom learning is described through the "Classroom Salon" program, which is no longer in existence. The "Classroom Salon" was a

website created for a writing classroom which mimicked features of Facebook such that it allowed the creation of profile pages and social interactions between users. This program allowed students to annotate and critique each other's work in the online setting as well as follow the development and future writings of other students. Kaufer, Gunawardena, Tan, and Cheek (2011) explain that "social media, such as Classroom Salon, [helped] build personal identity and community while also adding value to traditional learning environments" (p. 318). They further explain that social media relies on values of identity and community and that these should enhance student writing. However, they note that the enhanced writing that social media can offer is a "promise not a fait accompli" (p. 301). That is to say, simply putting a social media aspect into a writing classroom will not necessarily bring positive results unless it is utilized properly to bring out those results.

Even when teachers do not specifically integrate social media into the classroom, students can make use of it to supplement learning. Lampe, Wohn, Vitak, Ellison, and Wash (2011) articulated that students use Facebook to collaborate with each other about school work or even to organize group projects. The researchers cited the ease of use and familiarity of the platform for students as the primary reason that students are drawn toward Facebook as an academic medium and found a correlation between the amount of use of Facebook a student has and that student's propensity to use Facebook for academic purposes such as collaborating with other students in the class. In order for Facebook to be used most efficiently by students for this purpose, the students need to "friend" each other on the site. In many classrooms with students of mixed levels, this will residually result in a student who has not yet graduated being "friends" with an alumnus via Facebook. Chen and Bryer (2012) commented that the connections formed between students and alumni or other professionals can be invaluable resources to the students.

The researchers further discovered that connections formed between students within the class can be beneficial towards the student's success in the class by allowing a greater flow of information between the students.

Despite these acclaimed benefits of using social media for the classroom, relatively few teachers actually implement the use of social media in their classrooms. The Faculty Survey of Student Engagement ("The Chronicle of Higher Education," 2010) surveyed 4,600 faculty from 50 U.S. colleges and universities in 2009. The results pointed out that 80% of the surveyed faculty did not use social media technologies in their classrooms. However, a more recent exploration into Facebook use for the classroom found that Facebook has the potential for use in student learning (Wang, Lit Woo, Lang Quek, Yang, & Liu, 2012). Wang et al. explored using Facebook as a learning management system to conduct activities such as putting up announcements, sharing resources, and hosting online discussions. However, they also noted limitations with Facebook as a learning management system that some file types were not supported for upload and the lack of an ability to host threaded conversations that kept organized by topic. Facebook allowed instructors to easily engage students in an online setting they were familiar with, but also ran into some student concerns about their privacy since not all students were interested in sharing their online profiles with others in the class. This suggests a great potential for Facebook in student learning if the main concerns are addressed in some way.

The resistance shown by instructors, along with the demonstrated potential of Facebook for learning settings, calls for a study of the uses of Facebook for communicating with students outside of class to determine whether it is worth implementing. Facebook allows for high levels of mediated immediacy in communication both because of the design which allows for personalized self-disclosure and student familiarity with the platform. It is further reasonable to

assume that Facebook would be helpful for the classroom because of the mediated immediacy that the platform allows (O'Sullivan et al., 2004).

### **Teacher Immediacy**

Immediacy has been defined by Mehrabian (1971) as behaviors that increase psychological closeness between communicators. Pogue and AhYun (2006) set up a study to manipulate the nonverbal immediacy cues that instructors portrayed in the classroom. Their discovery was that among the behaviors that achieve immediacy in the classroom are smiling at students, making eye contact, and utilizing vocal variety. Past research has found that immediacy behaviors can have several benefits for students, including increased student information-seeking strategies, out of class communication, and student learning, as well as decreased student apprehension (Ellis, 1995; Fusani, 1994; Jaasma & Koper, 1999; Myers & Knox, 2001; Witt et al., 2004). These studies examined immediacy in terms of face to face communication as the concept was originally conceived.

A 2014 Gallup Poll utilized self-report data to determine that 68% of people ages 18-29 in the survey used computer mediated communication in the last day (Newport, 2014). This compares to just 47% of people aged 30-49 and 26% of those aged 50-64. The way that the college-aged student communicates has changed. Today's college students often use computer-mediated communication to interact with their instructors outside of class through channels such as email or learning management systems.

Early conceptions of computer-mediated communication (CMC) argued that this form of communication was effective only for processing messages and not for building relationships. Daft & Lengel (1986) studied CMC in a workplace setting and found that while CMC allowed for more clear and unambiguous communication than verbal communication, CMC did not allow

for individuals to express nonverbal cues which would increase immediacy. However, since that conclusion in 1986, CMC has changed significantly. The World Wide Web came to a recognizable form in approximately 1990 and CMC users are no longer held to the constraints of text-based communication that Daft and Lengel identified and had available to study.

Later researchers concluded that CMC could indeed be an effective means of establishing and building relationships and that it was comparable in richness to face to face communication. Parks & Floyd (1996) studied 24 online chat rooms with a survey to look into the prevalence of personal relationships forming online and whether those relationships would migrate to other offline settings. They found that about a third of all participants studied had contacted their online friends through each phone, mail, and face to face communication. Walther & Burgoon (1992) examined the effects of participating in an online forum (as opposed to simply observing others). They found that both active participants and those who observed but did not participate had high levels of intimacy, social orientation, composure, and informality felt with the communicators in the group. However, those that participated in discussion had higher levels than those that merely observed. These two studies suggest that high levels of immediacy can be achieved through CMC.

When interactions take place via computer mediated communication, a new construct of immediacy must be used to differentiate the concepts: mediated immediacy. Mediated immediacy has been defined as “communicative cues in mediated channels that can shape perceptions of psychological closeness between interactants (O’Sullivan et al., 2004, p. 471). O’Sullivan et al. conducted a thorough three-part study on the topic of mediated immediacy. The researchers first identified two categories under which mediated immediacy can occur: approachability and regard for other. Under “approachability,” immediacy cues were identified

as referring to experiences outside the official role, displaying photos portraying experiences outside official role, using colors, providing contact information, showing informal settings in images, using colloquialisms, revealing information about oneself that matches the receiver, having frequent encounters, and sharing jokes (p. 473). Under “regard for other,” immediacy cues included remembering/using names, incorporating knowledge of persons in interactions, returning messages, reading messages carefully, inviting future interaction, using a clearly designed web site to aid navigation, and practicing common courtesies in interactions (p. 474).

Many of these cues can be easily included through using Facebook for OCC. The design of Facebook allows users to be familiar with the layout of the page and readily browse information about others as well as photographs of that person outside of formal settings. Facebook profiles allow for additional information about an individual to be readily available to a user. This allows a user to more easily use a person’s name and incorporate information about that person in their interactions because a memory aid is built in to the communication tool via the Facebook profile. Further cues supported by Facebook are the use of colors (Facebook is a website in color), referring to experiences outside of the official role (unless a page is created solely for professional purposes it will have reference to a user’s outside life), showing informal settings in photos (Facebook encourages uploading a lot of photos of oneself), and revealing information about oneself that matches the user (as a platform for self-disclosure, Facebook increases self-disclosure and thereby increases the likelihood of matching information being revealed).

The second study conducted by O’Sullivan et al. tested the newly identified immediacy cues to determine if those cues could be used to predict lowered student anxiety and uncertainty. They conducted an experiment with 95 undergraduate students and subjected them to two

versions of the same course website. The websites were designed to have the levels of immediacy displayed manipulated to be either high or low. Lower levels of student anxiety and uncertainty were found to correlate with higher levels of teacher immediacy. The researchers concluded that immediacy cues could be effectively conveyed through mediated channels to reduce student anxiety and uncertainty.

The third study by O'Sullivan et al. differentiated between presentational cues (how a site is organized/designed) and linguistic cues (the words that are typed) by creating two more versions of the high immediacy web page. One page used high levels of presentational cues and low levels of verbal cues. The other page used high levels of verbal cues and low levels of presentational cues. Presentational cues, such as using colors and an easy to navigate layout, and were found to produce higher levels of immediacy than linguistic cues, such as using colloquial words (O'Sullivan et al., 2004). As before, Facebook is designed to have high levels of presentational cues and allows for verbal cues which may suggest that it can be effective in fostering immediacy especially with approximately 90% of college students using Facebook daily (Smith and Caruso, 2010).

More recent research has found several correlations between mediated immediacy and other existing constructs. A survey of college students (Baker, 2010) sought to understand whether there was a correlation between mediated immediacy cues and affective learning, cognition, and motivation in an online course setting. Baker offered a voluntary survey to 699 participants enrolled in an online class at mid-sized universities. The results showed that those students who perceived their online instructors to have higher levels of immediacy were more likely to have higher levels of affective learning, cognition, and motivation.

An experiment looking into using Facebook for self-disclosure sought to close the gap between a typical face to face classroom where self-disclosure likely occurs regularly and an online classroom where content is primarily content focused. Mazer, Murphy, & Simonds (2007) set up three different levels of self-disclosure for course instructors via Facebook (high, medium, and low) to study the effects of self-disclosure via CMC. After participants viewed a Facebook page, they completed a survey which indicated their level of motivation and anticipated affective learning from that instructor. The study concluded that higher levels of self-disclosure via Facebook were correlated with higher levels of motivation and anticipated affective learning.

Mazer et al. (2008) conducted a further experiment that manipulated levels of self-disclosure via Facebook (an area determined by O'Sullivan et al. (2004) to be indicative of mediated immediacy). In this study, they administered a survey to measure perceived teacher credibility following viewing of the different levels of immediacy on Facebook pages. They determined that the higher levels of mediated immediacy displayed on a Facebook page were linked to higher levels of perceived teacher credibility.

Kelly and Fall (2011) discovered a correlation between high levels of mediated immediacy cues and students meeting learning outcomes. The authors manipulated online classroom experiences to test the high and low levels of immediacy and compare the results with high and low levels of immediacy in a face-to-face classroom. They found that the immediacy cues from a face-to-face setting were able to be successfully mirrored in a mediated setting to obtain high levels of student motivation and a significant change in the likelihood of students meeting the learning outcomes for the class.

Finally, Schutt et al. (2009) conducted an experiment with just under one thousand participants in which they manipulated the immediacy cues displayed during a mediated lecture. Some participants watched a lecture with video and full audio, while others had full audio but instead saw a static picture of the lecturer in place of a video. Within the two types of lectures, further division was made such that some students received higher levels of traditional immediacy cues and some received lower levels of traditional immediacy cues. The authors concluded that higher levels of traditional verbal and nonverbal immediacy behaviors displayed over a mediated channel still increased students' perceptions of an instructor's social presence.

Despite the many studies seeking links between mediated immediacy, Facebook, and student learning, there has yet to be research looking into a possible link between student attitude about the class and mediated immediacy displayed through Facebook used for out of class communication

### **Computer Mediated Communication and Immediacy**

Zhao et al. (2012) looked at the use of email as a means of cultivating out of class communication. The researchers first identified the term "social presence" as the computer mediated communication equivalent of teacher immediacy in face to face conversation. A higher level of social presence means that the teacher is more available and easy to initiate contact with via electronic means. The authors cited studies which posited that social presence is harder to build up at the beginning of a relationship, but given enough time it will equal that which can be found in face to face relationships between students and teachers. Among their findings were that email was an effective channel for OCC because it lends itself towards task oriented communication. They also commented on the possibility of Facebook being used for OCC, but were skeptical because of the tendency of Facebook to serve more affective purposes than

practical purposes. However, the authors remarked that Facebook may be valuable in increasing immediacy between students and instructors because of this focus on affect over tasks.

The notion of Facebook use for affective communication was investigated by Cheung and Vogel (2011). Based on focus group data, the researchers found that students were interested in knowing personal characteristics and social aspects about their instructors. The authors utilized five volunteer teachers who were willing to communicate with their students via Facebook. They noted that sharing personal characteristics and social aspects of the teachers' lives could be achieved through student-instructor interaction via Facebook. They followed up with a survey to a larger group that explored the links between how much students use Facebook, their intentions to use Facebook for school, and their Facebook privacy concerns. Conclusions reached were that students who use Facebook more frequently are more inclined to use it to communicate with their teachers and the main privacy concerns of students is related to their personal relationships and their pictures.

### **Out of Class Communication**

Before examining the existing research on out of class communication (OCC), it is necessary to have a working definition for OCC. Fusani (1994) described OCC as student-initiated visits during office hours, conversations before or after class, and informal meetings on campus between students and instructors. However, more recently, researchers have included electronic communications such as e-mail in this definition as well (Knapp, 2010; Zhao et al., 2012). Because of the changes in technological literacy and use among students, it is possible that Facebook could be included as a means of OCC between students and instructors. Thus, the working definition of OCC for this study is any contact between students and instructors outside of scheduled class time whether in-person or over a mediated channel.

The extant research on OCC has described extensive positive benefits for students engaging in OCC with instructors. Research has indicated that there is a positive correlation between the frequency and length of student-instructor interaction and students' motivation, students' academic self-concept, students' learning, students' commitment to the institution, academic performance and perceived personal growth (Komarraju et al., 2010; Lau, 2003; Pascarella & Terenzini, 1978; Strauss & Volkwein, 2004). These studies demonstrate the usefulness of students engaging in OCC and the multiple benefits that can arise from increased interaction between students and instructors outside of class time.

Correlations have been found linking OCC tendencies to the quality of interpersonal relationships with professors (Dobransky & Frymier, 2004). Dobransky and Frymier surveyed undergraduate college students about the amount of OCC they engage in with their instructor as well as the level of trust, shared control and intimacy they felt towards that instructor. Those students that reported higher levels of OCC, also reported higher levels of trust, shared control, and intimacy. It is no surprise that trust, shared control, and intimacy are all further indicative of teacher immediacy (Millar, 1976).

It is intriguing to note that OCC has been positively correlated directly with instructor immediacy in multiple studies as well. Fusani (1994) surveyed undergraduate students enrolled in a community college to determine whether "extra class communication," as he called it, with a particular instructor had a statistically significant correlation with a student's perception of that instructor's immediacy. In addition, he surveyed the instructors that those students met with to determine the usual content of their meetings with students outside of class time. He found that although about 85% of all visits were related to content of the course as opposed to social visits,

those students who engaged in more extra class communication perceived significantly higher levels of immediacy in their instructors.

Nadler and Nadler (2001) supported this correlation between OCC and instructor immediacy with the finding that student engagement in OCC is more likely if the students perceive the instructor to have more empathy or credibility, which are both indicators of high levels of immediacy.

### **Summary**

The extant literature shows clearly a need for teachers to be constantly updating their teaching techniques and communication behaviors to keep up with the changing times. Several cases exist in which teachers have attempted to use social media to fill that gap through programs like Classroom Salon or through encouraging student use of social media to interact with alumni, but many teachers remain reluctant to use social media for academic purposes such as out of class communication. Concerns over FERPA compliance can be alleviated when using Facebook by either creating private groups when messaging within the class or through communication taking place via private messages instead of on the public facing “wall.” There are many positive implications for students engaging in OCC with an instructor and research shows that, among other reasons, students participate in more OCC when they perceive the instructor as immediate. Immediacy refers to a psychological closeness that has traditionally been fostered by face to face communication, but has been recently updated to include the possibility of mediated immediacy. The construct of social presence suggests that Facebook could be used to promote the saliency of an instructor. Past research leads to the possibility of Facebook being used for out of class communication because of its ability to foster relationship building. Therefore, this study will aim to address the following hypotheses:

**Hypothesis 1.** Mediated immediacy displayed on a Facebook page with high levels of immediacy displayed will produce more willingness to engage in out of class communication than a web page with low levels of mediated immediacy displayed.

The theory of social presence posits that some media of communication can produce higher levels of salience than other media based on the availability of immediacy cues (Short et al., 1976). O'Sullivan et al. (2004) identified immediacy cues that could be displayed via computer-mediated communication and coined the term “mediated immediacy” to describe those cues. Many of the identified mediated immediacy cues are readily available through the design of a Facebook page. Thus, Facebook ought to be an effective method of displaying mediated immediacy. Several studies have found a positive correlation between immediacy and out of class communication (Fusani, 1994; Jaasma & Koper, 1999; Nadler & Nadler, 2001) which leads to the hypothesis that the higher levels of mediated immediacy as displayed through Facebook will produce higher levels of willingness to engage in out of class communication than the low mediated immediacy web page.

In this hypothesis, “mediated immediacy” refers to the cues presented over a Facebook page that promote a psychological closeness between communicators (O'Sullivan et al., 2004) and “willingness to engage in out of class communication” refers to a student’s intention to engage in the behavior of out of class communication with a specific instructor.

**Hypothesis 2.** Students will indicate more willingness to participate in out of class communication via Facebook for relationship-focused reasons than via the low immediacy web page for relationship-focused reasons.

Zhao et al. (2012) commented that Facebook may have use for out of class communication for affective purposes over task related purposes as a result of Facebook’s

tendency to promote affect over tasks. Because students tend to use Facebook for more affective reasons, hypothesis two predicts that students will be more willing to communicate with their instructors for relationship-focused reasons via Facebook than via a low-immediacy webpage..

## Chapter 3: Method

### Variables

The independent variable for this study was mediated immediacy cues. According to O'Sullivan et al. (2004), mediated immediacy cues include referring to experiences outside of official roles, photos portraying experiences outside official roles, using colors, providing contact information, using informal settings in images, using colloquialisms, revealing information about oneself, and sharing jokes (pp. 473-474). The level of mediated immediacy was manipulated at two levels, high and low, by respectively creating a Facebook page using each of these cues and an institutional faculty web page that uses significantly fewer of these cues.

The dependent variable for this study was willingness to engage in out of class communication. This variable was measured via a scale developed by Zhao et al. (2012) which measured student interaction with instructors via e-mail. Cronbach's alpha for the instrument to measure the dependent variable was determined by Zhao et al. (2012) to be .83 and later to be .88. The instrument demonstrates concurrent validity based on development from the scale used by Zhao et al. (2012) which included items taken from past research tools developed by Martin and Myers (1999), Sheer and Fung (2007), and Waldeck and Kearney (2001).

The "Willingness to Engage in Out of Class Communication" tool was originally developed by Zhao et al. (2012) and validated in the same study. The tool uses an 11-item scale to measure willingness to engage on each of several different topics on a Likert scale of 1 to 5. The scale is coded so that higher scores represent a higher willingness to engage in out of class communication. Cronbach's alpha for the instrument to measure the dependent variable was determined by Zhao et al. (2012) to be .83 and later to be .88. The instrument demonstrates

concurrent validity based on development from the scale used by Zhao et al. (2012) which included items taken from past research tools developed by Martin and Myers (1999), Sheer and Fung (2007), and Waldeck and Kearney (2001). The reliability for the tool in the current study using Cronbach's alpha was 0.805.

### **Subjects**

The subjects for this study were recruited from undergraduate communication courses at University of the Pacific. A total of 65 students were recruited for this study - 33 in the Facebook group and 32 in the Institutional web page group. Subjects were informed of the opportunity to participate in this study and were offered 5 points of extra credit for their voluntary participation. Students who chose to participate arrived at a computer lab at a predetermined time.

### **Design**

Participants were randomly assigned to either the high immediacy or low immediacy group. Those in the high immediacy group viewed a hypothetical instructor's Facebook page and those in the low immediacy group viewed a hypothetical instructor's low immediacy web page designed for this experiment. While viewing the web page, participants were asked to complete a questionnaire about the instructor (Appendix A) to ensure that they were engaging with the web page they were viewing. After completing the questionnaire, participants completed the Willingness to Engage in Out of Class Communication scale.

### **Instruments**

The following table is adapted from O'Sullivan et al. (2004) and was used to differentiate between the low immediacy webpage and the high immediacy Facebook page that participants viewed. While the Facebook page made use of the cues from the "High Mediated Immediacy"

column, the institutional webpage made use of the indicators from the “Low Mediated Immediacy” column.

Table 1: Mediated Immediacy Operationalization

<b>High Mediated Immediacy</b>	<b>Low Mediated Immediacy</b>
Refers to experiences outside of official role	Refers only to experiences within official role
Photos portraying experiences outside official role, including casual attire and off-campus settings	Only photos within official role including business attire and on-campus settings
Uses colors for text and background	Uses only grayscale for text and background
Provides a personal means of contact (Contact info such as an email address or personal inbox i.e. Facebook messages)	Provides an impersonal means of contact (A contact form on a web page)
Uses slang/colloquialisms	Uses only professional language
Shares jokes	Shares only serious information
Uses a standardized website that students are more likely to have encountered previously to aid in navigation	Customized website that students are unlikely to have encountered previously makes navigation more difficult

## Chapter 4: Results

This study had a total of 65 participants, 33 in the Facebook group and 32 in the Institutional web page group. Approximately 15% reported that they do not use Facebook, approx. 35% reported using Facebook 0-1 hours per day, approx. 22% reported using Facebook 1-2 hours per day, approx. 8% reported using Facebook 2-3 hours per day, approx. 8% reported using Facebook 3-4 hours per day, approx. 6% reported using Facebook 4-5 hours per day, and approx. 6% reported using Facebook more than 5 hours per day. The participants self-reported use of Facebook indicates that Facebook popularity may have waned, but shows it is still used.

29% of participants were male and 71% were female. Approximately 31% of participants were freshmen, approx. 36% were sophomores, approx. 22% were juniors, and approx. 10% were seniors.

Table 2: Mean Willingness to Engage Scores

	High Mediated Immediacy	Low Mediated Immediacy
Mean Willingness to Engage Overall	33.61 (SD=4.60)	30.85 (SD=11.23)
Mean Willingness to Engage for Relationship Focused Reasons	2.79 (SD=0.54)	2.90 (SD=1.08)
Mean Willingness to Engage for Task Focused Reasons	2.72 (SD=1.12)	3.28 (SD=0.45)

An independent t-test was conducted to determine if the type of web page a student viewed had an effect on his/her willingness to engage in out of class communication with the instructor. Students who viewed the Facebook page had a mean overall score of 33.61 ( $SD=4.60$ ) while those who viewed the Institutional web page had a mean score of 30.85 ( $SD=11.23$ ) Levene's test for equality of variances was significant ( $F=38.34, p<0.01$ ) so equality of variances cannot be assumed,  $t(33.6)=1.18, p>0.05$ . Thus, hypothesis 1 is not supported based on these results.

An independent t-test was conducted to determine if the type of web page a student viewed had an effect on his/her willingness to engage in out of class communication with the instructor for affective reasons. Students who viewed the Facebook page had a mean "affective reasons" score of 2.79 ( $SD=0.54$ ) while those who viewed the Institutional web page had a mean score of 2.90 ( $SD=1.08$ ). Levene's test for equality of variances was significant ( $F=16.03, p<0.01$ ) so equality of variances cannot be assumed,  $t(34.72)=-0.48, p>0.05$ . Hypothesis 2 is not supported based on these results.

A post-hoc independent t-test was conducted to determine if the type of web page a student viewed had an effect on his/her willingness to engage in out of class communication with the instructor for academic reasons. Students who viewed the Facebook page had a mean "academic reasons" score of 2.72 ( $SD=1.12$ ) while those who viewed the Institutional web page had a mean score of 3.28 ( $SD=0.45$ ). Levene's test for equality of variances was significant ( $F=56.65, p<0.01$ ) so equality of variances cannot be assumed,  $t(31.27)=2.38, p<0.05$ .

## Chapter 5: Discussion and Conclusion

### Implications

Hypothesis 1 was that the mediated immediacy displayed on a Facebook page with high levels of immediacy displayed will produce more willingness to engage in out of class communication than a web page with low levels of mediated immediacy displayed. This study found that there was no significant difference in willingness to engage in out of class communication between the two groups. This finding is counter to what the extant literature suggests. The implication of this is that solely using Facebook qua Facebook does not produce the expected results despite the literature seeming to point in that direction. There are possibly other factors behind Facebook use that influence student willingness to engage in out of class communication. This draws greater emphasis to the suggestions from literature that the way in which a tool is used has a greater impact than what the tool is and calls for further study into the effects of how Facebook is used for out of class communication over whether it is used at all.

Hypothesis 2 was that students will indicate more willingness to participate in out of class communication via Facebook for relationship-focused reasons than via the low immediacy web page for relationship-focused reasons. This study found that there was no significant difference in willingness to engage in out of class communication for affective reasons between the two groups. This result is counter to the suggestions of Zhao et al. (2012) that Facebook use is likely to increase immediacy because of its typical use for more affective purposes. The implications of this result are similar to the implications of hypothesis 1 - using Facebook alone does not produce greater willingness to engage in OCC for relationship-focused reasons.

Neither hypothesis was supported by this study which may be a result of the research becoming quickly outdated in this time period of quickly changing technology and trends

amongst students. Perhaps the hypotheses would have been supported if the study was conducted with a different social media platform aside from Facebook or if the method of exposure to Facebook were conducted differently. However, despite neither hypothesis being supported, a post hoc analysis of the data uncovered that students were more willing to engage in out of class communication with their instructor for academic reasons when they viewed the low mediated immediacy web page than when they viewed the Facebook page. This implies that despite an ongoing trend of new technological platforms being used by students, an instructor who plans to use Facebook qua Facebook may be better off using a provided university web page or other low mediated immediacy page to have no effects of student willingness to engage for affective reasons, but a positive effect on willingness to engage for academic or task-oriented reasons.

### **Limitations**

It is possible that the lower levels of mediated immediacy had little effect on students' willingness to engage in out of class communication for academic reasons and that, instead, students had an initial level of willingness to engage that was not related to the web page they viewed. In this case, the students viewing the low immediacy web page may have maintained the status quo and those viewing the Facebook page may have been negatively impacted by preconceived ideas about the uses of Facebook rather than the levels of mediated immediacy displayed. In addition, this study utilized a convenience sample of participants which may have skewed results. The results may have been more generalizable if this study sought a random sample of participants from multiple geographic locations to account for possible differences in culture around use of Facebook. Finally, the level of Facebook use reported by the participants was lower than expected. The results may have skewed more positively towards Facebook if the

participants used it more heavily or if the the study used a social media platform that was more heavily used by the participant group.

### **Suggestions for Future Research**

Future studies could improve upon this study by creating a new web page that is not hosted on a known social media platform (i.e. Facebook) to exhibit high levels of mediated immediacy to eliminate possible student bias based on preconceived notions about the platform and instead allow a focus on only the mediated immediacy cues displayed. In addition, future studies could benefit from a pre-test/post-test structure that gathers initial information about student willingness to engage in out of class communication prior to viewing any web page to help determine a change in willingness to engage and account for the differences in initial willingness to engage between individuals.

On the same thread as moving away from Facebook, future researchers in the field may attempt to uncover the most popular social media platform among their target population and could consider using that platform. It's conceivable that, at the time of this study, Facebook had already begun to slip out of popularity or its primary use may have shifted. We previously concluded that it is necessary for an instructor to constantly update his/her teaching style to match the needs of students. With the rate of new social media platforms rising and falling in popularity, there may be value in considering Twitter, Snapchat, Reddit, or another platform that may rise to popularity in the near future.

Further, it would be suggested that future studies attempt to manipulate the ways in which Facebook is used to determine the effects that the use may have on student willingness to engage in OCC. Experiment groups in this future study may have some that simply view the page to get to know their instructor, some that communicate with their instructor via Facebook

about specific course related topics, and some that communicate with their instructor via Facebook in an open-ended conversation. These could all be compared to a control group that either views a low-immediacy web page or does not view a web page at all. This will help to further examine the possible effects of how Facebook is used by an instructor.

### **Conclusions**

The results of this study show that there is no difference in whether students will engage in out of class communication with the instructor based on the web page, but they are more likely to engage in out of class communication for academic reasons if the instructor has a web page with low levels of mediated immediacy. This would suggest that students would benefit most from web pages with lower levels of mediated immediacy since viewing the Facebook page seemed to limit willingness to engage in academic out of class communication with the instructor.

Even though neither hypothesis in this study was supported by the data, this study created interesting questions for further research into the effects of different ways in which Facebook is used. We may not have direct or actionable implications for current instructors, but this study adds to academia by raising interesting questions for further studies to examine possible reasons neither hypothesis was supported.

## References

- Alexa (2018). Facebook.com site info. <<http://alexa.com/siteinfo/facebook.com>>
- Aydin, S. (2012). A review of research on Facebook as an educational environment. *Educational Technology Research & Development*, 60(6), 1093–1106. <https://doi.org/10.1007/s11423-012-9260-7>
- Baker, C. (2010). The impact of instructor immediacy and presence for online student affective learning, cognition, and motivation. *Journal of Educators Online*, 7(1), 1-30.
- Boyd, D. M., & Ellison, N. B. (2007). Social network sites: Definition, history, and scholarship. *Journal of Computer-Mediated Communication*, 13(1), 210-230. doi: 10.1111/j.1083-6101.2007.00393.x
- Chen, B., & Bryer, T. (2012). Investigating instructional strategies for using social media in formal and informal learning. *International Review of Research in Open & Distance Learning*, 13(1), 87-104.
- Cheung, R., & Vogel, D. (2011). Can Facebook enhance the communications between teachers and students? *International Journal of Learning*, 17(11), 385-398.
- The Chronicle of Higher Education. (2010, July 25). *Professors' use of technology in teaching*. Retrieved April 3, 2014, from <http://chronicle.com/article/Professors-Use-of/123682/>
- Cotten, S. R. (2008). Students' technology use and the impacts on well-being. *New Directions for Student Services*(124), 55-70. doi: 10.1002/ss.295
- CPS October 2012. (2012). Retrieved April 2, 2014, from <http://www.census.gov/hhes/school/data/cps/2012/tables.html>
- Daft, R. L., & Lengel, R. H. (1986). Organizational information requirements, media richness and structural design. *Management Science*, 32(5), 554-571.

- Dobransky, N. D., & Frymier, A. B. (2004). Developing teacher-student relationships through out of class communication. *Communication Quarterly* (3), 211.
- Dyrud, M. A. (2012). Posting, tweeting, and rejuvenating the classroom. *Business Communication Quarterly*, 75(1), 61-63. doi: 10.1177/1080569911432738
- Ellis, K. (1995). Apprehension, self-perceived competency and teacher immediacy in the laboratory-supported public speaking course: trends and relationships. *Communication Education*(1), 64.
- Ellison, N. B., Steinfield, C., & Lampe, C. (2007). The benefits of facebook "friends:" Social capital and college students' use of online social network sites. *Journal of Computer-Mediated Communication*, 12(4), 1143-1168. doi: 10.1111/j.1083-6101.2007.00367.x
- Fink, L. D. (2013). *Creating significant learning experiences : an integrated approach to designing college courses*: Jossey-Bass.
- Fusani, D. S. (1994). 'Extra-class' communication: Frequency, immediacy, self-disclosure, and satisfaction in student-faculty interaction outside the classroom. *Journal of Applied Communication Research*, 22(3), 232.
- Gunawardena, C. N. (1995). Social presence theory and implications for interaction and collaborative learning in computer conferences. *International Journal of Educational Telecommunications*, 1(2), 147-166.
- Heiberger, G., & Harper, R. (2008). Have you Facebooked Astin lately? Using technology to increase student involvement. *New Directions for Student Services*(124), 19-35. doi: 10.1002/ss.293

- Jaasma, M. A., & Koper, R. J. (1999). The relationship of student-faculty out-of-class communication to instructor immediacy and trust and to student motivation. *Communication Education, 48*(1), 41-47.
- Jong, B.-S., Lai, C.-H., Hsia, Y.-T., Lin, T.-W., & Liao, Y.-S. (2014). Research report: An exploration of the potential educational value of Facebook. *Computers in Human Behavior*. doi: 10.1016/j.chb.2013.12.007
- Junco, R. (2012). The relationship between frequency of Facebook use, participation in Facebook activities, and student engagement. *Computers and Education, 58*(1), 162-171. doi: 10.1016/j.compedu.2011.08.004
- Junco, R. (2013). Comparing actual and self-reported measures of Facebook use. *Computers in Human Behavior, 29*(3), 626-631. doi: 10.1016/j.chb.2012.11.007
- Kaufer, D., Gunawardena, A., Tan, A., & Cheek, A. (2011). Bringing social media to the writing classroom: Classroom Salon. *Journal of Business & Technical Communication, 25*(3), 299-321. doi: 10.1177/1050651911400703
- Kelly, S., & Fall, L. (2011). An investigation of computer-mediated instructional immediacy in online education: A comparison of graduate and undergraduate students' motivation to learn. *Journal of Advertising Education, 15*(1), 44-51.
- Knapp, J. L. (2010). The influence of students on instructor out-of-class communication, job satisfaction, and motivation. *Human Communication, 13*(3), 171-196.
- Komaraju, M., Musulkin, S., & Bhattacharya, G. (2010). Role of student–faculty interactions in developing college students' academic self-concept, motivation, and achievement. *Journal of College Student Development*(3), 332.

- Lampe, C., Wohn, D., Vitak, J., Ellison, N. B., & Wash, R. (2011). Student use of Facebook for organizing collaborative classroom activities. *International Journal of Computer-Supported Collaborative Learning*, 6(3), 329-347. doi: 10.1007/s11412-011-9115-y
- Lau, L. K. (2003). Institutional factors affecting student retention. *Education*, 124(1), 126-136.
- Martin, M. M., & Myers, S. A. (1999). Students' motives for communicating with their instructors. *Communication Education*, 48(2), 155.
- Mazer, J. P., Murphy, R. E., & Simonds, C. J. (2007). I'll see you on "Facebook": The effects of computer-mediated teacher self-disclosure on student motivation, affective learning, and classroom climate. *Communication Education*, 56(1), 1-17. doi: 10.1080/03634520601009710
- Mazer, J. P., Murphy, R. E., & Simonds, C. J. (2008). The effects of teacher self-disclosure via "Facebook" on teacher credibility. *RCA Vestnik (Russian Communication Association)*, 30-37.
- Mehrabian, A. (1971). *Silent messages*: Wadsworth.
- Millar, F., Rogers, L. (1976). A relational approach to interpersonal communication. In G. R. Miller (Ed.), *Explorations in interpersonal communication* (pp. 87-103). Beverly Hills, CA: Sage.
- Myers, S. A., & Knox, R. L. (2001). The relationship between college student information-seeking behaviors and perceived instructor verbal behaviors. *Communication Education*, 50(4), 343.
- Nadler, M. K., & Nadler, L. B. (2001). The roles of sex, empathy, and credibility in out-of-class communication between faculty and students. *Women's Studies in Communication*(2), 241.

- Newport, F. (2014, November 10). *The new era of communication among Americans*. Retrieved from <https://news.gallup.com/poll/179288/new-era-communication-americans.aspx>
- O'Sullivan, P. B., Hunt, S. K., & Lippert, L. R. (2004). Mediated immediacy: A language of affiliation in a technological age. *Journal of Language & Social Psychology*, 23(4), 464-490. doi: 10.1177/0261927X04269588
- Parks, M. R., & Floyd, K. (1996). Making friends in cyberspace. *Journal of Computer-Mediated Communication*, 1(4), 16p.
- Pascarella, E. T., & Terenzini, P. T. (1978). Student-faculty informal relationships and freshman year educational outcomes. *71*(4), 183-189.
- Pempek, T. A., Yermolayeva, Y. A., & Calvert, S. L. (2009). College students' social networking experiences on Facebook. *Journal of Applied Developmental Psychology*(3), 227. doi: 10.1016/j.appdev.2008.12.010
- Pogue, L., & AhYun, K. (2006). The effect of teacher nonverbal immediacy and credibility on student motivation and affective learning. *Communication Education*, 55(3), 331-344. doi: 10.1080/03634520600748623
- Schutt, M., Allen, B. S., & Laumakis, M. A. (2009). The effects of instructor immediacy behaviors in online learning environments. *Quarterly Review of Distance Education*, 10(2), 135-148.
- Selwyn, N. (2009). Faceworking: Exploring students' education-related use of Facebook. *Learning, Media and Technology*, 34(2), 157-174. doi: 10.1080/17439880902923622

- Sheer, V. C., & Fung, T. K. (2007). Can email communication enhance professor-student relationship and student evaluation of professor?: Some empirical evidence. *Journal of Educational Computing Research*, 37(3), 289-306. doi: 10.2190/EC.37.3.d
- Short, J., Christie, B., & Williams, E. (1976). *The social psychology of telecommunications*. New York: John Wiley & Sons.
- Strauss, L. C., & Volkwein, J. F. (2004). Predictors of student commitment at two-year and four-year institutions. *Journal of Higher Education*, 75(2), 203-227.
- Waldeck, J. H., & Kearney, P. (2001). Teacher e-mail message strategies and students' willingness to communicate online. *Journal of Applied Communication Research*, 29(1), 54.
- Walther, J. B., & Burgoon, J. K. (1992). Relational communication in computer-mediated interaction. *Human Communication Research*(1), 50.
- Wang, Q., Lit Woo, H., Lang Quek, C., Yang, Y., & Liu, M. (2012). Using the Facebook group as a learning management system: An exploratory study. *British Journal of Educational Technology*, 43(3), 428-438. doi: 10.1111/j.1467-8535.2011.01195.x
- Witt, P. L., Wheelless, L. R., & Allen, M. (2004). A meta-analytical review of the relationship between teacher immediacy and student learning. *Communication Monographs*, 71(2), 184-207. doi: 10.1080/036452042000228054
- Zhao, Q., Ahn, S., Meyers, R. A., Timmerman, C. E., & Fonner, K. L. (2012). Exploring students' use of e-mail for out-of-class communication: Frequency, satisfaction, and learning self-efficacy. *Journal on Excellence in College Teaching*, 23(4), 5-32.

## APPENDIX A: ENGAGEMENT QUESTIONNAIRE

**Getting to Know Your Instructor**

1. Approximately how old is Dr. Nuckels-Cuevas?
2. How long has Dr. Nuckels-Cuevas been teaching?
3. What is Dr. Nuckels-Cuevas' relationship status?
4. What is Dr. Nuckels-Cuevas' first name?
5. What is the best way to contact Dr. Nuckels-Cuevas?
6. What are some activities that you think Dr. Nuckels-Cuevas may enjoy on her free time?
7. Where did Dr. Nuckels-Cuevas grow up?
8. Please describe your perception of Dr. Nuckels-Cuevas' personality.
9. Do you think you would enjoy taking a class with Dr. Nuckels-Cuevas? Why or why not?