TALKING OR TYPING?
GENDER DIFFERENCES IN COMMUNICATION PATTERNS OF
FACE TO FACE VERSUS ONLINE COURSES

A Thesis

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by

Elizabeth Irene Guerra

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by

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Graduate and Professional Studies in Education
Abstract

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Statement of Problem

The purpose of this work is to observe communication patterns between students in a face to face and online undergraduate level class. This study will specifically focus on the gender communication patterns of students. The researcher will compare the communication patterns to identify gaps between a traditional and online class. Additionally, the observation will focus on examining the communication patterns and gender discourse. This study focuses on the following questions: In what ways does a classroom environment (face to face verse online) impact the caliber of student participation? Is there a difference in the gender of the participants when comparing a face to face course to an online course?
Sources of Data

Students from a State University were observed in a face to face and online class of the same course. The participants in the study consisted of 176 students at a State University. The face to face class consisted of 51 students; 27 males and 24 females. The online class consisted of 119 students; 52 males and 67 females. Observational methods were used by utilizing a rubric during the observations. The rubric was designed for each type of class seeking to identify specific themes. The data collected from the rubric allowed for the researcher to conduct thematic analysis and make conclusions when comparing the observations from the two different classroom dynamics.

Conclusions Reached

The qualitative nature of this study allowed for specific conclusions to be drawn from observations of a face to face class and online class in relation to gender. The current research for how men and women communicate in the classroom aligns with what was observed in the face to face class. Males are more likely to draw attention to the class by raising their hand and being called on to participate. Females are not called on as often as male students. Their opinion can be dismissed by being interrupted and feeling as if they do not matter. Online class allowed for female students to become more comfortable with voicing their opinions through online discussion posts. Female students are more likely to utilize self disclosure and are more open to participation and providing feedback. This researcher came away with
the impression that the classroom environment can impact a student’s likelihood to feel connected.

_____________________________________________, Committee Chair
Sherrie Carinci, Ed.D.

____________________________________
Date
DEDICATION

I would like to dedicate this thesis to all the women in my family who have modeled independence, respect, and drive, more than I could learn in formal education. Some had a significant impact throughout the course of my life. My Nonna (Grandmother) Barbara, who demonstrated patience, compassion, and confidence in a world where women needed to find their place and stand out. My Mother, Diane Guerra, exemplified independence and being able to overcome obstacles in being a single mother. She is an impeccable role model in overcoming traditional female roles and furthered my perception of women in the work place. The future of society gives me hope based on the gifts that these women have bestowed upon me.
ACKNOWLEDGEMENTS

I am grateful to the many people who have helped support this study. I will forever be thankful for all of the women who have worked and continue to strive for a more equitable education environment and society.

I wish to express my appreciation for having Dr. Sherrie Carinci as my thesis advisor and first reader. Dr. Carinci’s passion for research, gender equity, and education makes her an inspirational mentor and a highly esteemed educator. Dr. Carinci has given me guidance, support, and expert knowledge for my research topic. Her advice and support has been irreplaceable and necessary in my success. I also want to thank her for the motivation and belief in me as a researcher. The support that she has provided me has helped me tremendously academically and also personally.

To my second reader, Katherine Raines, I am thankful for your encouragement, positivity, wit, and willingness to support me. Your success is inspiring and motivating. Thanks you for taking the time to instill confidence in me.
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Chapter 1

INTRODUCTION

Technology, more and more, has become a necessity in the classroom (Harasim, 1989). Universities are utilizing online classes because they are more cost effective and can enroll more students. There is a wide variety of research on the communication in the traditional classroom but there is a lack of research on online classroom interaction, specifically when examining gender communication dynamics in an online classroom. The more educators understand online class communication and how it compares to traditional learning, the better prepared educators will be to successfully implement technology (Eastmond, 1992). Modern research is available for examining online learning, however, there is a lack of focus in regards to gender equity in the online environment.

Face to face classroom communication norms are developed in the classroom at a young age (Armstrong, 1996). Students raise hands to participate, and have been taught that speaking out of turn can lead to discipline from the teacher. The students become accustomed to these norms and accept them. The norms developed by teachers effect how students can interact with their peers. Teachers can use gendered terms without realizing it. In the classroom teachers often use the terms boys, girls, men, and women. These terms will direct a child’s attention to gender rather than personality, intelligence, or skill of a particular individual (Bigler, 2005). Terms such as gender allows the instructor to group all members of that specific term to all share a range of specific characteristics (Bigler, 2005).
Online discussion has been researched for almost two decades, and in the past 15 years it has transformed post-secondary education (Meyer, 2010). This proliferation has led to increased research in understanding online interaction (Hewitt, 2003). There is a plethora of information of the effectiveness of online classes but there is a lack of research on examining gender in these classes. Online discussion is a valuable tool as it provides greater opportunity for shy individuals to participate in group discussions, makes the collective knowledge of the class more accessible, and allows people time for reflection before they commit their ideas to public scrutiny (Jaffee, 1997; Mason & Kaye, 1990).

Research indicates that communication in the classroom has been analyzed extensively (Jansen, 2008). There is a broad array of research on the traditional classroom because that has been the dominant form of teaching. Educators who are accustomed to traditional based teaching methods are being faced with offering online classes. This increase in availability adds to the online educators who provided online education to the 2.35 million online students enrolled in courses (Allen & Seaman, 2005). Sixty-five percent of graduate programs in the U.S. offer online degrees and 56% of U.S. universities and colleges have identified a focus on offering online degrees (Allen & Seaman, 2005). However, there is a significant gap in the research in regards to the gender communication dynamics of these online classes. It is important to find out if the same patterns that are experienced in a traditional classroom mirror online class environments.
Significance of the Study

Technology has become a necessity in the classroom. Universities are moving in the direction of online classes because they are more cost effective and can enroll more students (Allen & Seaman, 2005). There is a wide variety of research on the communication style in a face to face classroom but there is a lack of research on online classroom interaction. There has been little research published on gender communication in an online class. Online classroom communication is important to research in order to help education evolve. Research suggests, the more educators can learn about online classes and how online teaching styles can compare to traditional learning, the more effective online learning can be on students.

Statement of the Problem

The purpose of this work is to observe communication patterns between students in a face to face and online undergraduate level class. This study will specifically focus on the gender communication patterns of students. The researcher will compare the communication patterns to identify gaps between a traditional and online class. Additionally, the observation will focus on examining the communication patterns and gender discourse.

Research Questions

1. In what ways does a classroom environment (face to face/online) impact the caliber of student participation?
2. Is there a difference in the gender of the participants when comparing a face to face course to an online course?
Methodology

This study employed a qualitative methods approach through an observational study with the examination of the data using thematic analysis. Observational research is one of the more common qualitative methods (Merriam, 1998). There are various forms of observational research. This particular study utilized the non participatory form of observational research. The parties being observed did not have any interaction with the researcher (Merriam, 1998). Thematic analysis was used to identify commonalities between the traditional and online classes being observed. Thematic analysis is one of the most commonly used methods of qualitative analysis (Howitt & Cramer, 2007). Coding the data in groups of related data helps identify themes in the research. The researcher identifies examples of each theme to illustrate what the analysis has achieved (Howitt & Cramer, 2007).

The population study consisted of two Anthropology undergraduate classes at a Northern California University, State University (Pseudonym). The classes were the same class subject and taught by the same professor. This study compared two teaching modalities. The face to face students were given a consent letter to approve being observed in the face to face classroom (Appendix A). The data was be collected through observation and observation rubric taken during the observation (Appendix B). The topics in the rubric were selected by the researcher but the design was influenced by previous research (Student Engagement, 2009). All field notes recorded did not include the students names.
The face to face students were observed by the researcher being present in the classroom. A rubric was used to evaluate gendered interactions between the students and professor (Appendix B). The terms being examined consist of directness, attentiveness, interruptions, floor time, being called by name, and probing questions. These concepts were examined through the observation notes and themes will be identified by recognizing commonalities amongst the interaction.

The online students were observed by examining the dialogue communicated in the online classroom discussions. A rubric was used to evaluate gendered interaction between the online dialogue (Appendix C). The online class observation was conducted through an online portal where the student posts their interactions. The concepts being examined consist of length, directness, tone, academic voice, personal examples, apologetic writing, assignment timeliness, and resubmission. These terms were examined through analyzing the content submitted to the online class and common themes will be identified amongst the content.

**Limitations**

The limitations of this study was that the population observed was on a smaller scale. The population of the study consisted of two undergraduate classes and were generalized to the population of undergraduate students in the Anthropology department. The quality of data collected from the online class could be limited based on the observations made from the face to face classroom. Comparing the classes was difficult based on the different environments of the classes. Throughout the observation portion of the study, the researcher could have missed certain behaviors
(Howitt & Cramer, 2007). Another limitation could be misinterpretation off the online discussion because the tone of the dialogue was not present. There are limitations to the population being studied. The population consisted of students enrolled in a specific discipline and with a specific professor.

**Theoretical Basis for the Study**

The theoretical constructs related to the study consisted of teacher education, technology, and communication. The different areas of research allow for the study to be relevant to different areas that are examined in academia. The theories of genderlect, computer mediated communication, and social presence are examined for the purposes of this study. These theories focus on different aspects of how students communicate. They also identify what elements exhibit effective classroom communication.

**Genderlect**

The theory of genderlect refers to the ways in which men and women communicate. Men and women communicate differently. The theory makes the claim that males and females communicate in different dialects (Tannen, 1990). Tannen (1990) explains, the ways men and women communicate can be seen as a cross-cultural format. Men focus their communication around highlighting status and esteem. Women communicate through wanting to establish a human connection (Tannen, 1990). Men and women also communicate differently when establishing norms within the family. These norms can translate into a student’s educational experience (Tannen, 2003). Family interaction establishes gender roles and
negotiation. Most negotiations by men are for power while women use negotiations to make connections (Tannen, 2003). These social constructs are established in the home and can carry over to the classroom.

Boys establish power and dominance in the classroom. Boys tend to dominate talk in the classroom. They also utilize nonverbal communication such as hand gestures, and laughter (Blair, 2000). Boys try to dictate the conversation and sometimes view participation as a competition. This type of behavior is distracting for all in the classroom. When an educator condones boys controlling the conversation, it allows for students not in the “boys group” to be silenced and forced to become submissive in the classroom.

Girls participate in the classroom by referring to their own lives and the activities in the classroom. Girls tend to be private and do not speak up. They also participate more when they work in pairs and small groups (Blair, 2000). This type of behavior aligns with the idea that girls will refrain from speaking out to the whole class. Girls may feel intimidated by the boisterous participation of the boys which can result in a “silenced voice” in the classroom (Carinci, 2009).

**Computer Mediated Communication Theory**

Computer Mediated Communication (CMC) theory can be used to enhance the communication among teachers and students from the perspective of students’ responsibility (McComb, 1994). Students should be inspired to become creators, active participants in society, and voice their opinions. It is questionable whether students can achieve these goals while being tethered to a computer monitor.
(McComb, 1994). CMC benefits the learning environment and allows for increased availability. The community of students and the teacher have a shared responsibility over the course. Instructors are more accessible. Teachers being involved can consist of interjecting questions, interpretations, syntheses, praise, and validation in response to student discussion (McComb, 1994). These commitments made are an integral part in allowing students to become comfortable with Computer Mediated Communication.

Using CMC can focus the participation in an online setting. This type of education setting allows for students and allows for the instructor to participate and interact with the students. The instructors involvement in online discussion communicates to the student that the teacher is not just someone they are receiving a grade from (McComb, 1994). The interaction may help supplement the lack of face to face interaction and how comfortable a student feels participating in the class.

**Social Presence Theory**

There are various types of learning environments that can impact non verbal communication which effects the students classroom experience. The fewer the number of cues the less invested and connected a student may feel to their learning environment (Walther, 1996). This theory argues that there are various attributes traditional classrooms possess that are lacking in an online class. An online class specifically lacks non verbal communication. The less non verbal communication in a classroom, the least likely students will feel influenced to participate (Walther, 1996). This theory poses the idea that lecture based traditional learning environments are essential to a students’ investment in their own education.
Definition of Terms

*Communication Patterns*: passing information from one person to another with the intention of getting a specific result by connecting and relating to others (Jansen, 2008).

*Computer Mediated Communication Theory*: A method of facilitating an online class. This type of method focuses on the students and teachers working collaboratively in an online setting to achieve the same goal (McComb, 1994).

*Face to Face Classroom*: The traditional schooling experience requires you to attend classes in person and on campus. These classes typically consist of a teacher presenting information and students absorb the information (Pahl, 2003).

*Genderlect*: A theory that examines the way that men and women communicate with each other. This type of communication is identified through a cross-cultural lens (Tannen, 1990).

*Gender Bias*: Communication limiting preconceptions about appropriate and expected behavior, abilities, career directions and personal goals which are based on sex rather than on individual interest and ability (Hall & Sandler, 1982).

*Observation*: Viewing behavior in order to provide knowledge of the context to specific ill-defined phenomena (Merriam, 1998).

*Online Classroom*: A class that only meets online. Online education is also known as distance learning and consists of taking classes via the internet (Pahl, 2003).

*Participation*: Students freely converse and share ideas where they foster a better understanding of course material (Hill, 2007).
Social Presence Theory: The idea that when non verbal communication is not present, the quality of education may not be present. Students are less likely to interact with others in the classroom (Walther, 1996).

Organization of Thesis

The organization of this thesis follows the guidelines established in the Graduate Student Handbook through the College of Education, Teacher Education program. Chapter 1 incorporates the following: the significance of the study, statement of the problem, methodology used to carry out the study, limitations of the study, theoretical basis of the study, definition of terms, organization of the thesis and background of the researcher. Chapter 2 consists of a review of relevant literature on the topic of student communication in the classroom, including a history of online and traditional based learning. Chapter 3 concentrates on the methodology of the thesis and details the design process and the procedures employed in the study. Chapter 4 presents an analysis of the qualitative data. Chapter 5 consists of the conclusions drawn from the study, as they relate to the proposed research questions and relevant literature, followed by the proposed recommendations for further study. Following Chapter 5 are the Appendices and a complete list of references utilized in this study.

Background of Researcher

Elizabeth Irene Guerra earned her Bachelor of Arts degree in Organizational Communications from California State University, Sacramento in 2012. During her final year at CSU Sacramento, she discovered her passion for gender equity and wanted to pursue this discipline on a deeper level. She was most interested in
understanding how communication impacts the issues of gender equity in education. Working in technology and educating adults has inspired her to examine online learning and gender communication.

The Masters of Arts in Education, Behavioral Sciences and Gender Equity Studies has allowed for Ms. Guerra to develop a framework for gender discrimination, high education, and communication in the classroom. Her variety of courses in various departments provide her with a well rounded background on gender equity issues. Ms. Guerra envisions working on facilitating gender equity in higher education and examining how it can be implemented into other disciplines.
Chapter 2

REVIEW OF RELATED LITERATURE

In order for education to progress, technology has been implemented. The communication constructs of an online class needs to be examined further. This area of study is important because technology will only become more prevalent as classroom instruction evolves. The key areas of literature that are guiding the research examine gender communication dynamics in the classroom that encompasses traditional face to face classroom and an online learning environment. Gender stereotyping through communication in the classroom needs to be evaluated consistently through an educators entire career. Gender stereotypes can have a significant influence on students self esteem which can impact their education (American Association of University Women, 1992). A larger range of research is available for examining gender communication dynamics in a face to face classroom. Recent research is available for examining online learning, however there is a lack of focus in regards to gender equity in an online class.

**Face to Face Classes**

Communication norms are developed in the classroom at a young age. The students become accustomed to these norms and accept them. The norms developed by teachers effect how students can interact with their peers (Denton, 2007). Teachers can use gendered terms without realizing it and impact a students self perspective. In the classroom, teachers often use the terms boys, girls, men, and women. These terms will direct a child’s attention to gender rather than personality, intelligence, or skill of
a particular individual (Bigler, 2005). Grouped terms such as gender allows the students to group all members of that specific term to all share a range of specific characteristics (Bigler, 2005). Teachers as a group tend to provide longer wait times for boys, give more eye contact or listening to boys, call on boys more often than girls, and say the students name when speaking with boys (Carinci, 2009; Denton, 2007).

**Online Course Interaction**

There is a plethora of information of the effectiveness of online classes but there is a lack of research on examining gender and common communication patterns in these classes. Online courses has been researched for almost two decades, however, in the past 15 years, online instruction has transformed post-secondary education. This proliferation has led to increased research in understanding online interaction (Hewitt, 2003). Online discussion is a valuable tool as it provides greater opportunity for timid individuals to participate in group discussions. Students are more likely to feel comfortable to voice their opinions in an online class (Ramli, 2010). The sharing of opinions through an online class makes the collective knowledge of the class more accessible. The online communication format allows students time for reflection before they commit their ideas to public scrutiny (Jaffee, 1997).

Literature examining discussion has expanded to include research into computer-mediated discussion (Jarvela & Hakkinen, 2002). With the development of Computer Mediated Communication (CMC), the interest in online communication has increased. In Discussion and Communication Instruction there has been several
questions raised on the effectiveness of online discussion in online and classroom instruction (Sherblom, 2010).

**Online Discussion**

Online discussion boards have become standard components of an online class. Discussion is the essential tool students and educators use to communicate in these types of classes. This type of communication provides students who are typically hesitant from speaking up in a face to face classroom and opportunity to voice their opinion (Harasim, 1989). These features suggest that online discussion can be utilized as a great tool to enhance student learning. In fact, research suggests that online technology could theoretically heighten class interaction (Hewitt, 2003).

Online discussion impacts the language patterns observed in an online class (Pahl, 2003). Students had varying thoughts on the usefulness of the online discussion. It was found that some students were more comfortable speaking online than in the classroom (Ramli, 2010). It was also found that some students felt more comfortable sharing their thoughts and opinions online rather than face-to-face (Vess, 2005; Zhu 2006). Vess suggested that students seemed to appreciate what online discussion brought to the class, but were not especially prone to a strong sense of learning through discussion (Vess, 2005). A lack of effectiveness aligns with current literature that indicates the need for strategy to effectively utilize asynchronous and online discussion when teaching courses (Aitken, & Shedletsky, 1997; Vess, 2005).

An interesting feature of online discussion boards is their asynchronous nature; students and instructors contribute to the online discussion at separate times. Hewitt
(2003) studied the development of asynchronous discussion online, because of the differences in online discussions versus traditional discussions. According to Hewitt (2003), students typically began an online session by reading notes, rather than writing notes. They tended to read notes that were marked as unread, and rarely returned to notes that they had seen during a previous session (Hewitt, 2003). By focusing on the most recent posts, students’ attention is focused on chronological order of posts rather than importance of what the students were saying. Hewitt (2003) explains that focusing on unread notes first can lead to two side effects: unintentional thread abandonment and unintentional changes in topic. These side effects indicate that online discussion can be weakened by its asynchronous nature of the course. This weakness in asynchronous discussion prompts the need for research in online collaborative learning.

Currently, traditional online discussions are currently being compared to collaborative learning methods. This type of comparison is included in Ioannou’s (2011) article on online collaborative learning. Ioannou (2011) explains that discussion is commonly used in online learning communities. Traditionally, online learning forums use discussion boards where instructors and students can interact and discuss asynchronously. While this method is used frequently, Ioannou (2011) points to past literature that finds threaded discussion tend to suffer from incoherence and a lack of convergence that can affect student understanding of the discussion at large (Ioannou, 2011). Online discussion (asynchronous communication) is thought to enhance student participation; however it can negatively affect student understanding
and topic continuity. These drawbacks are thought to be resolved through implementing online collaborative discussion (Pahl, 2003). This study, like many others, fail to examine the gender dynamics of online discussion patterns.

**Online Educator**

The type of communication used in an online class can differ from what is common in a face to face class. Teachers need to learn to adjust teaching styles in order to be effective in facilitating an online learning environment. These types of environments can help build cohesion amongst students and students feel more comfortable in providing feedback in an online setting (Peck, 2012; Ramli, 2010). There is an interest in the utilization of electronic communication when teaching courses (Aitken & Shedletsky, 1997). Aitken and Shedletsky (1997) shared strategies and insight into teaching communication courses using online discussion.

The online learning environment was examined by the language used in the discussions. Meyer analyzed the types of communication occurring in an online class. The writing elements such as syntax, grammar, and tone were analyzed. The use of “I” allowed the writers to feel less formal and disclosed more because of a more anonymous environment (Meyer, 2010). Yukselturk & Bulut examined at how gender differences impacted the online environment. The students were evaluated by examining test scores and interviews. The researcher could not make the claim as to whether females were treated different in an online class. The research focused on how certain behaviors had a positive effect on how students performed (Yukselturk & Bulut, 2009).
Gender and Schooling

There are many different types of interaction that occurs in the classroom. Sadker (1984) divided a teachers’ interaction with a student by categorizing them into praise, acceptance, remediation, or criticism. Teachers are more likely to respond to a boy with an intellectual response and reprimand girls for speaking out of turn (Sadker, 1984). Sadker exposed the inconsistencies of communication in the classroom. Teachers are establishing communication norms for each individual gender. The interactions a teacher has with their students will have a direct impact on the self esteem of the students (Sadker & Zittleman, 2005). Males and females are hurt by the specific roles expected of them in different ways (Sadker & Zittleman, 2005). There are many developmental or learning style differences, an anti-school culture felt by boys, or even brain differences. In the classroom, boys and girls often receive different treatment (Sadker & Zittleman, 2005). Teachers call on boys more often than girls, wait longer for boys' answers, and provide more precise feedback to boys. Boys are held more accountable for their behavior. Girls are more likely to be quiet in class and be praised for neatness (Sadker & Zittleman, 2005). According to Orick (1993), females are more likely to receive feedback for non academic rather than academic work.

The idea of gender equity often focuses on the treatment of girls (Orick, 1993). However, gender roles established in the classroom can hinder the capabilities of boys and girls. There appears to be an emphasis on boys’ underachievement rather than examining at other aspects being contributed. These inequities have created the notion
in the minds of teachers that it is part of their professional responsibility to ‘see’ differences between the learning behaviors of boys and girls. These inequities could cause educators to specifically look for differences. It could potentially can cause them to unconsciously stereotype their students (Skelton et al., 2009). Educators need to acknowledge that inequities have an impact on all children. Orick (1993) identifies a few of the many stereotypes that hinder children. If educators are able to see the different stereotypes that are connected to boys and girls the more empowered they will feel to make changes in the classroom.

To truly achieve gender equity in communication require first, that female identified (associated) behaviors are valued and responded to in the same ways as male identified (associated) ones; and second, that communication behaviors are similarly valued whether the person doing them is female or male (Orick, 1993). Some teachers implied that it is important to take the time to identify different gendered interests of boys and girls. This allows for them to develop a connection to both genders (Skelton et al., 2009).

**Gender Interaction Patterns**

Men and women also communicate differently with norms established in the home. These norms can translate into a students education experience (Tannen, 2003). These social constructs are established in the home and can carry over to the classroom and activities students participate in. In the classroom, the activities that students participate in can be driven by gender biases. Tannen (1991) found, popular classroom activities will focus on analysis and classroom discussion. Participatory activities was
easier for male students because they feel comfortable criticizing and attacking what they are analyzing. Research suggests that female students are not going to participate as much because the discussion could be perceived as hostile (Tannen, 1991). A dominant activity that encourages on group can alienate others and deter them from communication with their teachers and peers.

Armstrong (1996) stated schools choose classroom activities that will appeal to boys’ interests and to select presentation formats in which boys excel or are encouraged more so than boys. A student may feel intimidated based on the activities a teacher selects. Research suggests that teachers may assume that speaking aloud in class leads to academic success. These activities can hinder each students assumption of what success in school looks like (Armstrong, 1996). Girls may feel if they are not opinionated or outgoing they are not being good students. The idea of girls feeling less confident in their attributes and potential is called a “learned helplessness” (Noddings, 2005). When teachers focus their activities of a certain genders learning style it causes an imbalance in the classroom (Carinci, 2009).

Many students are not instructed on how to let their voices be heard in the classroom. Face to face classroom discussion research has focused on common misconceptions of discussion, lack of education on proper discussion methods and participation, and teacher anxiety towards facilitating discussion (Pahl, 2003). Taylor (2007) found, for the vast majority of students, direct instruction in speaking focuses on public speaking, which is available as elective courses in most high schools. Classroom activities typically focus around public speaking. There is an emphasis in
this method even when there are elective classes for public speaking offered (Taylor, 2007). The fact that teachers use this method shows how highly educators value being able to speak in public. Educators need to offer a wider variety of modalities because not all students will feel confident in public speaking activities.

**Educators Understanding Gender Equity**

There are various institutional factors such as school structure, biased instructional materials, and traditional division of labor in school. Teachers appear to be extremely important in that they play a major role in the diverse experiences that males and females face (Tracy & Lane, 1999). The American Association of University Women (1992) published an important report dealing with gender inequity in the classroom. This report noted that females receive less attention from teachers, and this attention is more often negative or contradictory. In order to maintain an equitable classroom, teachers receive little to no training (Erden, 2009). The lack of training or awareness can contribute to stereotypical patterns for boys and girls to be set into place (Erden, 2009).

Legal framework exists in which educators are required to maintain an equitable environment. While policy framework on this issue is not well defined, non-governmental organizations such as education unions raise these concerns and bring these issues to the attention of government authorities (Erden, 2009). It is hoped that endeavors continue to provide a more favorable environment in terms of gender equality for male and female students. These measures are hopefully an incentive for educators and institutions to take gender equity seriously (Erden, 2009).
Gender Grouping Pattern

To bring a more social dynamic environment to a face to face classroom, many teachers implement group work and projects. With any group, specific dynamics can evolve based on the characteristics present. Males tend to occupy “center stage” in group work, and are viewed as a primary leader (Howe, 1997). Females’ requests are twice as likely as males’ to be ignored, the upshot being that males receive more explanations in total. The overall population addresses their requests to males, for males are much more likely to respond to other males than they are to females (Howe, 1997). Females in same-sex pairs had more opportunities than females in mixed pairs to manipulate equipment. The females in mixed pairs spent more time listening and watching than they did in same-sex, and less time actively involved (Rennie & Parker, 1987).

Online classes implement groups because the students are not interacting in a physical classroom. The different environment can have an impact on how males and females interact virtually. Tolmie and Howe (1993) identified same-sex groups, both male/male and female/female, engaged in one-and-a-half times the number of switches of speaker than mixed groups did. Research is limited on whether gender differences in interaction around computers has a direct bearing on learning (Howe, 1997). It is more likely to create negative attitudes in girls which may result in their opting out of subjects where computers are centrally involved (Howe, 1997).
**Language**

Face to Face classrooms are fortunate in that there are varying ways that students can participate in the classroom. The participation strategies used impacts the willingness of students. Physical movement can allow for students to express themselves through other means then verbalizing their opinions (O’Connor, 2013). There are traditional methods such as cold calling students. Forced participation can limit the language students use (Dallimore, Hertenstein, & Platt, 2004). Students may feel timid because they are being forced to participate. Students are more open to non traditional methods such as group collaboration and partners. Students are able to use informal dialogue and feel as if their voices can be heard by their peers (O’Connor, 2013).

The patterns that are present in the classroom mirror socialization norms that exist in society. Instructors have different expectations for females and males (Carinci, 2009). Instructors are more likely to encourage males to participate and interrupt in the classroom in comparison to females that behave in the same way (Sadker & Sadker, 1994). Teachers spend more time answering males’ questions. Some teachers may use different emotions or feelings for specific groups of students. Sadker divided a teachers’ interaction with a student by categorizing them into praise, acceptance, remediation, or criticism (1984). Teachers are more likely to respond to a boy with an intellectual response and reprimand girls for speaking out of turn (Sadker, 1984). Sadker exposed the inconsistencies of communication in the classroom.
The attention given to males teaches females that their voice is secondary (Duffy, Warren, & Walsh 2002). Female students are viewed as accomodating to the male students that demand the attention. The females are left silenced because of the increased attention given to the male students (Carinci, 2009).

**Gender Equity Training**

Colleges, school, and departments of education make the decision whether gender equity has a place in pre-service curriculum for teachers. Which results in examining whether the education system believes that teachers being aware of how they address gender will relate to students success (Sanders, 2003). Many teachers are getting their own training and awareness on gender equity independently. If a teacher does not feel inclined to implement gender equity in their teaching methods, they will not (Sanders, 2003).

Training should continue as teachers move through their careers in the classroom. Many times, teachers independently drive their gender equity training (Sanders, 2003). To promote gender equity consistently in the classroom educators participate in evaluation and feedback throughout their careers. Formal gender equity training can have a significant impact on a teacher’s perception of gender equity issues in the classroom (Carinci, 2009). The California Department of Education, Office of Gender Equity (1992), makes recommendations and strategies for teachers to implement a more equitable environment. It is recommended that the classroom design be reviewed and allow for females to be represented in the curriculum, and represented in formal and classroom activities.
Peer to peer feedback between teachers can keep educators accountable. Observations will allow others to monitor their teaching methods and interactions. Denton (2007) explains the observer can take detailed notes about wait time, eye contact, whom teachers call on, and what type of feedback given girls versus boys and then to discuss this with teachers afterwards. The teacher being evaluated will be able to discuss with another teacher in their field what their struggles or successes are concerning gender equity (Denton, 2007). The evaluation system will help the teacher doing the evaluating because it will give them an idea of what to avoid or integrate into their classroom. The survey tells the students that their perspective matters and that their teacher cares about the learning environment and wants to make positive changes that benefits all students in both an online and face to face classroom.

**University Teacher**

University professors receive little to no training on how to educate college students (Coffey & Gibbs, 2000). The typical college educator does not possess special training specifically for teaching. Educators have a wide array of knowledge with a Bachelor of Arts or Bachelor of Science, Master’s degree, and possibly a specialized Ph.D. Educators at the university level are not required to obtain specific training to teach (Olivieri, 2011). While some educators have had training in teaching, such as K-12 or liberal arts, most college educators do not have teaching credentials. Many educators who have received teacher preparation training are unlikely to have been educated on gender equitable strategies for the classroom (Olivieri, 2011).
These educators are receiving little training on how to conduct a classroom especially when it comes to demonstrating gender equity in the classroom. There is limited research on the topic but educators are not entering the adult education classroom prepared to teach using gender equitable teaching approaches (Carinci, 2009). Many professors want to make their classroom fair but do not receive gender equity training or make it a priority in the classroom (Sanders, 2003). Sandler, Silverberg and Hall (1996) state that while “most faculty agree with the goals of gender equity, it is the rare professor, male or female,” who implements gender fair teaching approaches (p. 5). In “Teaching our Teachers: Gender in the Foreground,” Brown and Silber (2000) describe a survey of university faculty from an education departments that uncovered the need of gender equity and the impact that it can have on students, The survey indicated:

1) fifty colleges were represented, none offered a gender equity course in its teacher education program; (2) more than 90 percent of faculty said gender equity was mentioned in their curricula; (3) in some programs gender equity was the subject of a one-hour lecture during the semester. Faculty expressed the need to learn more about the psychology of women's and girls' development, strategies for creating a more gender fair environment in the classroom. (pp. 154-155)

The research above indicts that teachers are not receiving gender equity training in many teaching programs. Many express interest but gender equity is not prioritized in the material presented in preparation of becoming an educator. This lack of focus on
gender equity has a negative impact on students and does not set teachers up for a successful learning environment.

Conclusion

There is a wide range of literature in regards to communication in the classroom. There is a wider array of research on the traditional classroom because that has been the dominant form of education. Online education is starting to become constant and recent research has been emerging. There is a need to identify if the same patterns that have been found in a traditional classroom mirror an online class environment.

The education environment has established that males garner the majority of the attention from the teacher. The attention given to males can leave a negative impact on females. Females may feel that their voice does not matter or that what they have to say is not valid. This type of interaction can be caused by a teachers’ lack of training in regards to gender equitable practices. This type of classroom dynamic can be produced in a face to face or online modality. However, there is a lack of research on whether an online environment impacts the voice of the female student as significantly as face to face.

This review encompasses many ideals that are examined in this study. The review analyzes face to face and online classroom dynamics, gender equitable practices in the particular teaching modalities, and the amount of training a university instructor receives. The data present identifies the importance of understanding the
student and teacher interaction and how that interaction can impact a students’ self
worth.
Chapter 3
METHODOLOGY

Introduction

The purpose of this work is to observe communication dynamics in a face to face and online undergraduate level class. This work compared the communication patterns of students to identify the differences between a face to face and online class. Additionally, the observation focused on examining communication patterns in relation to gender. The subjects of observational study was two Anthropology undergraduate classes from a Northern California State University. These classes were conducted in two different classroom environments; face to face and online.

Study Design and Data Collection

The design of this study was the qualitative method. Qualitative research depends on watching people and interacting with the in their own environment. Qualitative observation points to the absence or presence of something (Kirk & Miller, 1985). Many researchers use the qualitative method because the research is pluralistic, meaning that a variety of models can be applied to the same subject (Kirk & Miller, 1985). The qualitative method was used in the form of an observational study of two university courses on the same subject. Qualitative data was collected from the observations by a detailed rubric, and comparing the notes to an established trend based on observations (Appendix B). The online course was observed in a different manner. The students’ discussions were examined using thematic analysis and identifying common themes in how students present themselves in writing through an
online discussion. The common trends present in both classes were examined but not necessarily compared due to being completely different learning environments. Observational research is one of the more common qualitative methods (Merriam, 1998). There are various forms of observational research. This particular study utilized the non participatory form of observational research. The parties being observed did not have any interaction with the researcher (Merriam, 1998). Observational methods were used on both types of environments. The type of observation was altered based on the ability to observe behavior in comparison to the teaching modality.

**Research Questions**

1. In what ways does a classroom environment (face to face/online) impact the caliber of student participation?

2. Is there a difference in the gender of the participants when comparing a face to face course to an online course?

**Research Instruments**

Observation was used to obtain the data for the study. There are various forms of observational research. This particular study utilized non participatory form of observational research. The parties observed did not have any interaction with the researcher (Merriam, 1998). The nature of the study through observation allowed for the data to be collected in a safe and ethical way. The students information remained anonymous through the study and pseudo names were used.

Data was collected using qualitative methods. Two classes were observed. The classes in the study were a face to face and online class. For the face to face
classroom, an instrument was developed to code the interactions that were observed. In the observation rubric, various categories were examined in order to relate verbal and non-verbal communication (Appendix B). Detailed notes were taken during the lecture based class in addition to identifying gender differences in body language, interaction patterns and group behavior.

A rubric was designed to evaluate the interactions in the face to face classroom. The rubric identified themes being examined by the researcher but was guided by previous research. The categories that were evaluated consisted of directness, attentiveness, interruptions, floor time, being called by name, and probing questions. The categories are important because they impact the students perception of participation and value. The categories were examined on how they relate to gender. The patterns of discussion between students were notated on the rubric by the observer. A detailed account of how the students were interacting in the class were hand recorded by the observer.

The online classes discussions were evaluated using a coding method through a rubric which examined the type of language used in the online participation environment (Appendix C). The students in the online class had three required discussions that they needed to participate in for credit throughout the semester. The researcher archived and examined two of the three discussions required of the class. The researcher selected the first discussion and last discussion and examined any changes through the course of the semester. The researcher observed the class through a transcript analysis on the content presented in the discussions. Themes that were
examined consisted of length, directness, tone, academic tone, personal examples, assignment timeliness, and resubmission. The categories were examined on how they related to gender.

The two different types of data from the observation was examined and compared through a thematic analysis. The data collected through both observations was different types of data. It was difficult to directly compare the two types of data because they were two different types of teaching modalities. The research allowed for the data to be differentiated between both types of classroom dynamics.

Supplies used by researcher consisted of paper and pens for the consent letter which were given to students in the face to face class. The internet was a necessary tool to use to observe the online class. The rubric was filled out through an electronic medium such as a computer and tablet.

**Participants**

The data being compiled between both classes were compared using a qualitative analysis. The gender of students and caliber of participation was compared using thematic analysis from the findings of both classes. The students were enrolled in an undergraduate general education class. The class was offered through the College of Arts and Humanities. The class level and ages of the participants varied being that the participants are in an undergraduate general education class. Findings from the observations themselves was implemented into the results by the use of qualitative analysis. The participants in the study consisted of 176 students at a State
University. The face to face class consisted of 51 students; 27 males and 24 females. The online class consisted of 119 students; 52 males and 67 females (Table 1).

Table 1

*Classroom Enrollment Totals*

<table>
<thead>
<tr>
<th>Enrollment</th>
<th>Face to Face</th>
<th>Online</th>
</tr>
</thead>
<tbody>
<tr>
<td>M</td>
<td>27</td>
<td>52</td>
</tr>
<tr>
<td>F</td>
<td>24</td>
<td>67</td>
</tr>
</tbody>
</table>

*Procedures*

In order to begin the study, a professor at State University (Pseudonym) agreed to have their face to face and online class observed. The professor was identified because he was teaching the same class in both types of learning environments. The professor gave the researcher permission to access the online class by adding them as a teaching assistant to the course.

The face to face classroom structure was based on a 16 week semester model. The students were able to attend the class in person or by watching the lecture via television. The content of the course consisted of PowerPoint and reading from a pre-selected textbook. According to the course rubric, students were not graded on
participation. The researcher attended the class once a week to observe student interactions.

The students in the face to face classroom signed a consent letter giving the researcher permission to observe the class interactions (Appendix A). No student objected to be observed in the study. The researcher attended the lecture based class once a week during the majority of the semester. A rubric was used each class session to evaluate the participation and communication between students (Appendix B). This rubric consisted of identifying directness, attentiveness, interruptions, floor time, being called by name, and probing questions. The rubric allowed for additional comments to be written that applied to each particular concept, and allowed room for specific examples.

The online class structure was based on a 16 week semester model. The content of the course was PowerPoint presentations, prerecorded lectures, and reading from a preselected textbook. The students were required to respond to three prompts throughout the course of the semester. These posts were only viewable by the professor and did not establish any dialogue.

The students in the online class were able to be observed by the researcher having access to the online portal for the class. The professor instructing the class gave the researcher teacher assistant rights which allowed them access to the class online. The area of focus for the observation focused on the discussion portion of the class. The dialogue had been evaluated by specific criteria. The criteria consisted of length,
directness, tone, academic tone, personal examples, apologetic writing, assignment timeliness, and resubmission.

**Setting**

The face-to-face classroom was conducted in a traditional lecture hall with a projector in order to display the daily presentations. The class enrollment totaled 51 students; 27 males and 24 females. The instructor introduced the researcher to the class the first day of instruction, and the students signed consent forms in order to be observed. The researcher sat in the back of the classroom and took notes with the established rubric electronically on a laptop or tablet.

The online class was conducted in a self-guided manner. The students were held accountable for keeping up with the material and watching the lectures on their own. There were specific dates in place for quizzes, midterm, and final. The students were required to submit three discussion board posts. These posts were not interactive with the other students. The discussion posts were a submission to the professor. The researcher was granted access to the online class by being made a teaching assistant. The researcher examined the discussion board posts to the created rubric and coded the online interaction.

**Instructor**

The instructor had experience in teaching both the face to face and online classroom formats. The instructor has been teaching at the university level and can be assumed that they have not experienced teacher training. The instructor had been teaching in the discipline of Anthropology for 13 years. The face-to-face class was
conducted with PowerPoint presentations. The professor did the majority of the presenting and there was a lack of student input sought out by the instructor. The students were not placed in groups. Student to student interaction was not present in either class. Students met only online for the web based class. The students were required to listen to the lectures from the web portal, submit quizzes, and required discussion boards. The design of the online class allowed for no interaction between classmates. The instructor designed the course with little student to student interaction with the intent that the students would be independent in the content of work that was submitted and had a lack of student participation.

**Summary**

The researcher looked to understand the role that gender participation and interaction between students in an online and lecture based class. The goal of this study was to focus on the lack of current research in an online classroom communication dynamic. Research indicates that online learning is becoming more and more prevalent in undergraduate programs (Hewitt, 2003). Current research does not examine the impact a student’s gender has on their likelihood to feel comfortable in participating online. Thematic analysis was applied to the data recovered from the observation. The design for the qualitative thematic analysis was based on a consistent evaluation for both teaching modalities. The researcher’s intent was to gain awareness around how students participate and how certain groups interact in the different the different classroom modalities.
Chapter 4

FINDINGS

The objective of the study is to observe communication dynamics in a face to face and online undergraduate level class. This work will compare the communication patterns of students to identify the differences between a face to face and online interaction course through observational analysis. Additionally, the observation will focus on examining at the communication patterns in relation to gender. An instrument was developed to code the interactions that were observed. In the face to face observation rubric, various categories were examined in order to relate verbal and non verbal communication (Appendix B). The categories that were evaluated consisted of directness, attentiveness, interruptions, floor time, being called by name, and probing questions. The categories are important because they impact the students perception of participation and value. The categories were examined as to how they relate to gender. In the online discussion course, the researcher observed the class through a transcript analysis on the content present in the discussions (Appendix C). Themes that were examined consisted of length, directness, tone, academic tone, personal examples, assignment timeliness, and resubmission. The categories were examined on how they related to gender. The subjects of study were from two Anthropology undergraduate classes from a Northern California State University. Diverse learning environments can impact a student’s willingness to participate in the classroom.
Qualitative Results

Gender Demographic of Students

Examining the gender amongst both face to face and online classes allows for the researcher to identify the ratio of males to females amongst both classes. The face to face class has a ratio of 53% males and 47% female. The online class has a ratio of 44% male and 56% female.

Face to Face Class Observation

Student perceived attentiveness. The students’ perceived attentiveness was examined through classroom observation. The researcher identified through coding when students made eye contact when speaking, using technology in the class, and taking notes. The overall observation indicated, male students were more prone to making eye contact when speaking in the classroom. Female students utilized technology in the classroom more often and could be perceived as a distraction. Male and Female students took notes regularly in class (Table 2).

Table 2

Student Perceived Attentiveness

<table>
<thead>
<tr>
<th></th>
<th>Male</th>
<th>Female</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td># of Students (27)</td>
<td>Percentage overall</td>
</tr>
<tr>
<td>Eye Contact</td>
<td>17</td>
<td>62%</td>
</tr>
<tr>
<td>Using Technology in Class</td>
<td>10</td>
<td>37%</td>
</tr>
<tr>
<td>Taking Notes</td>
<td>20</td>
<td>74%</td>
</tr>
</tbody>
</table>
**Eye contact comparison.** Eye contact was examined by coding the amount of times students participated in the classroom and provided direct eye contact with who was being addressed. Male students increased in provided eye contact as the course of the semester went on. Males peaked towards the end of the semester, with a maximum of 17 occurrences. Females also increased with a maximum of 10 occurrences but did not reach the level that the Males achieved. During class 5 both males and females increased the amount of eye contact observed. The fifth class occurred during the end of the semester, confidence and end of the semester pressure may have impacted the sudden increase (Figure 1).

*Figure 1. Eye Contact Comparison.*

![Eye Contact Comparison Chart]

**Use of technology.** Technology was identified as the use of cell phones, tablets, and laptops during the course of instruction. The use of technology in a face to face class can be seen as a hindrance of learning or an educational tool. Students were observed by tallying any time a student used a tool identified as technology during the
instruction time. Females consistently used technology through the course of the semester. As the semester went on the amount of female students using technology grew. The increase could indicate a growing comfort level in the class or a distraction due to being disinterested. The females may have been more cautious in using technology because it may offend the instructor. The maximum at the end of the semester reached 19 students out of 27. Male students did not increase at the rate that the Female students did. Male students used technology, the rate was more stagnant and did not spike until week 5 (Figure 2).

*Figure 2. Use of Technology.*
**Student note taking.** Students were observed by identifying when information was being written down during a lecture. Cues to the observer consisted of students writing when instructor presented information, asking the professor to repeat a statement, or go back to a previous PowerPoint slide. Female students consistently took notes more regularly throughout the course of the semester, eventually peaking at 18 out of 24 females taking notes the final week. The rate of females seemed constant and increased as the semester advanced. Males students were not as consistent in the note taking patterns. Males had a sudden increase at the end of the semester during class 6 where they increased 20 male students out of 27 taking notes between week 5 and week 6. The increase could have contributed due to final exams (Figure 3).

*Figure 3. Students Note Taking.*
**Student Raising Hands.** Students directness was observed by how the students interacted with the professor when facing an opportunity to participate or voice their opinion. The students were measured on the amount of times that a particular student raised their hand to speak in the class. Throughout the course of the semester 12 males and 6 females raised their hand to speak. The rate of raising hands was how often a particular student raised their hand to participate in class (Table 3).

Male students progressively increased the amount of times they raised their hand as the semester progressed. Males reached a high of 12 students participating by the end of the semester. Females were more stagnant in their willingness to raise their hands. The Female rate increased as the semester progressed. The semester started with 1 female raising their hand, increased, and decreased towards the middle, and increased until it peaked at 6 the last week of the semester (Figure 4).

Table 3

*Student Raising Hands*

<table>
<thead>
<tr>
<th></th>
<th><strong>Male</strong></th>
<th></th>
<th><strong>Female</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td># of Students (27)</td>
<td>Percentage overall</td>
<td># of Students (24)</td>
</tr>
<tr>
<td>Raising Hand to Speak</td>
<td>12</td>
<td>44%</td>
<td>6</td>
</tr>
</tbody>
</table>
Figure 4. Student Raising Hands Comparison.

**Faculty Interaction Patterns**

**Calling on students.** The rate of calling on students was observed by who was called on once the students raised their hands. Participation was not encouraged in the class. There were a total of 9 out of 27 males called on and a total of 4 out of 24 females called on. Males were increasingly called on more consistently then Females throughout the semester. Females reached a maximum of four students being called on in one class session. Males reached a maximum of nine students in a class session (Table 4 and Figure 5).
Table 4

*Faculty Interactions*

<table>
<thead>
<tr>
<th></th>
<th>Male</th>
<th>Female</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td># of Students (27)</td>
<td>Percentage overall</td>
</tr>
<tr>
<td>Professor calling on student</td>
<td>9</td>
<td>33%</td>
</tr>
</tbody>
</table>

*Figure 5. Instructor Calling on Students.*

**Probing questions.** This type of interaction was observed when students were asked a follow up question to check for understanding. These types of interactions can help build confidence because it shows the instructor is interested in what the student is saying. There were nine males that participated and four were asked a follow up question. There were four females that participated and two were asked a follow up
question. The type of follow up questions asked can help reiterate what the student was saying. (Table 5).

Interruptions. This was observed when a student participated and the instructor did not allow the student to finish their thought because they were interjected or interrupted. There were nine males that participated and three were interrupted. There were four females that participated and three of the females were interrupted. This type of interaction can cause students to feel as if what they are saying does not matter or they were incorrect, and can detract from students wanting to participate in the future (Table 5).

Table 5

*Dialogue with Students*

<table>
<thead>
<tr>
<th></th>
<th>Male</th>
<th>Female</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td># of Students</td>
<td>Percentage overall</td>
</tr>
<tr>
<td>Probing questions</td>
<td>4</td>
<td>44%</td>
</tr>
<tr>
<td>Interruptions</td>
<td>3</td>
<td>33%</td>
</tr>
</tbody>
</table>

*Online Class Observations*

*Discussion timeliness.* Students timeliness for the submissions were observed in the order that the discussions were submitted. The categories for analysis were when students submitted the discussion post three to five days before the due date, the day before, the due date, late, and were required to resubmit the assignment.
Assignment timeliness can indicate preparedness, organization, and confidence in what is being submitted. Nineteen percent of females in the class submitted their assignment three to five days before it was due. Fifteen percent of males submitted three to five days in advance. There were 10 late submissions, 6 were females and 4 were males. Resubmissions were due to a lack of content, not following the discussion design. Two of the two resubmissions were female students (Table 6).

Table 6

*Discussion Timeliness*

<table>
<thead>
<tr>
<th>Timeliness</th>
<th>Male</th>
<th>Female</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td># of Students (52)</td>
<td>Percentage of Males</td>
</tr>
<tr>
<td>3-5 Days Before</td>
<td>8</td>
<td>15%</td>
</tr>
<tr>
<td>Day Before</td>
<td>11</td>
<td>21%</td>
</tr>
<tr>
<td>Due Date</td>
<td>29</td>
<td>55%</td>
</tr>
<tr>
<td>Late</td>
<td>4</td>
<td>8%</td>
</tr>
<tr>
<td>Resubmission</td>
<td>0</td>
<td>0%</td>
</tr>
</tbody>
</table>
**Length of post.** As part of the online course, students were required to submit discussion posts where their opinions and reflections were documented on specific topics. Students were evaluated based on the amount of words they included in their post. Two discussions through the semester were evaluated. The categories used to gage amount of length was 0-300 words, 300-600 words, and 600-1,000 words. The majority of the students fell between 300-600 words. More females then males contributed posts from 0-300 words. More males contributed posts from 600-1,000 words; focused more on content verse quality. Female students voiced more through writing as they become more comfortable with the course with the second discussion (Table 7).

Table 7

*Length of Post*

<table>
<thead>
<tr>
<th></th>
<th>Male (52)</th>
<th>Female (67)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Discussion 1</td>
<td>Discussion 2</td>
</tr>
<tr>
<td>0-300 Words</td>
<td>15</td>
<td>12</td>
</tr>
<tr>
<td>300-600 Words</td>
<td>30</td>
<td>30</td>
</tr>
<tr>
<td>600-1,000 Words</td>
<td>7</td>
<td>10</td>
</tr>
</tbody>
</table>
**Individual discussion post length.** Students posts were compared based on two different discussions. The patterns seemed to be similar between both posts. Females in discussion 1 predominantly ranged between 300-600 words. Most of the male student submissions varied between 300-1,000 words (Figure 6).

![Bar Chart](image)

*Figure 6. Summary of Post Length.*

**Student voice in online discussion.** The students were evaluated based on the type of content they put into their online discussion posts. The level of their writing was examined as either an academic or casual tone. Academic tone consisted of undergraduate level writing, objective, essay form, third person. Casual tone consisted of a conversation, short sentences, numerous “I” statements (Table 8).
Table 8

*Student Voice in Online Discussion*

<table>
<thead>
<tr>
<th></th>
<th>Male (52)</th>
<th>Female (67)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of Students</td>
<td>Discussion 1</td>
<td>Discussion 2</td>
</tr>
<tr>
<td>Academic Tone</td>
<td>40</td>
<td>42</td>
</tr>
<tr>
<td>Academic Sources</td>
<td>37</td>
<td>38</td>
</tr>
<tr>
<td>Casual Tone</td>
<td>13</td>
<td>9</td>
</tr>
<tr>
<td>Personal Opinion</td>
<td>18</td>
<td>15</td>
</tr>
<tr>
<td>Personal Examples</td>
<td>3</td>
<td>2</td>
</tr>
</tbody>
</table>

Academic tone consisted of using language that would be seen in higher education. Avoiding "I" statements, organization with an introduction, thesis statement, body, and conclusion. Both males and females used academic tones in the discussion posts. Being in a university course there is an awareness that content submitted needs to have a professional sound to it. However, using an academic tone allows for an unbiased voice, and does not allow for creative ideas and much personal insight. In discussion one, 40 males and 48 females had the use of academic tone in their posts. In discussion 2, 42 males and 50 females had the use of academic tone.
Academic sources were examined by identifying the use of external references within the discussion posts. Sources such as academic journals, and articles that were used as evidence to support the points that were being made. Sources may be used to support when a student feels the points that are being made need support or their statements may be questioned. Male and Female students consistently used academic sources. In discussion 1, 37 males and 39 females used academic sources to support their posts. In discussion two, 38 males and 41 females used academic sources.

Casual tone was identified by the use of first person, talking directly to the reader, and using non academic slang. Casual tone was present in both discussion by males and females. The student may disconnect the post from academic writing because it seems like a more casual assignment, such as an email. In discussion one, 13 males and 20 females had instances of a casual tone. In discussion two, 9 males and 22 females used casual tone in the posts. The use of casual tone was more consistent with Female students, which may be a result of feeling as if it is their voice being produced in the post in comparison to a formal document.

Personal opinion was indicated by the use of “I” statements and where the student states how they feel about a particular thought, topic, or idea. Personal opinion is not typically standard for academic writing, but it in a discussion post could be warranted. In discussion one, 18 Males and 33 Females used personal opinions in the posts. In discussion two, 15 males and 35 females used personal opinions in their posts. There is a significant gap between the ratio of males to females that used
personal opinions. Females were more prone to utilizing personal opinions and felt confident displaying the opinions in an online post.

Personal examples were identified through the use of stories and anecdotes in the discussion posts based on personal experiences. Personal examples are not typically included in academic writing but can help portray a point or show understanding of a topic or theme. It requires the student to be vulnerable because they are exposing their own life to someone else. In discussion 1, 3 males and 13 females used personal examples in the discussion. In discussion 2, 2 males and 16 females used personal examples. Females used personal examples significantly more in the posts. The stories may have helped them validate knowledge on the topic, males may have felt that presenting personal stories would not get their point across (Figure 7).

![Student Voice Percentages in Online Discussion](image)

*Figure 7. Student Voice Percentages in Online Discussion.*
Summary

After examining the qualitative data from the observational study, the researcher established that there is a distinct difference between the way that students communicate in a face to face and online class, and that gender plays a significant part in the way that students interact. The study concurs with the research which implies that males receive more attention from the instructor and are more likely to be called on in a face to face classroom. The data collected in the study indicates that males' opinions are valued more than females. Males are less likely to be interrupted in a face to face class. The findings from the study also determined that female students are more likely to disclose personal information and participate in an online class discussion. Females voice their opinions more in an environment where stating their opinion is not intimidating. Using qualitative methods through observation and thematic analysis allowed the researcher to identify communication patterns present in both classroom modalities and how those patterns related to gender communication styles.
CHAPTER 5
DISCUSSION, CONCLUSIONS, LIMITATIONS, AND RECOMMENDATIONS

Introduction

This study examined the communication dynamics in a face to face and online undergraduate level class. This work compared the communication patterns of students to identify the differences between a face to face and online class. Additionally, the observation focused on examining the communication patterns in relation to gender. The subjects of study were two Anthropology undergraduate classes from a Northern California State University. These classes were conducted in two different classroom environments; face to face and online.

The face to face class was examined by identifying verbal and non verbal communication in the classroom. The researcher evaluated directness, attentiveness, interruptions, floor time, being called by name, and probing questions. The intent of the study was to examine communication dynamics between students. The class was designed in such a way that did not allow for student to student interaction. Data was collected on student participation in the classroom. The categories also examined on how they related to gender and an equitable learning environment.

The online class was observed by the content presented in the online class discussions. Themes that were examined consisted of length, directness, tone, academic tone, personal examples, assignment timeliness, and resubmission of assignments. The categories were examined on how they related to gender and an equitable learning environment. The online class was designed in a way that the
students did not interact with each other. The researcher solely focused on the individual student participation when answering course required assignments and questions.

There is a wide array of types of interactions that can impact a student’s willingness to participate in the classroom (Denton, 2007). There is minimal research in evaluating communication dynamics in an online class. This researcher was not able find any studies that had examined gender dynamics in an online class setting. The study hoped to bring new research about gender interaction in comparison of an online class. The researcher is unaware of any research that examines a face to face and online classroom with the analysis of gender; resulting in the main focus of the study.

Discussion

Qualitative Data

The gender demographic consisted of the ratio of male to female students between the face to face and online class. There were 27 males and 24 females in the face to face class. There were 52 males and 67 females in the online class. There was a larger ratio of female students in the online class in comparison to the face to face class. This study supports previous findings that males are given more attention when interacting with the professor in a face to face classroom. The classroom norms developed by teachers’ effect how students can interact with their peers (Denton, 2007). This action by the professor can cause a negative impact on the female students because they may feel as their voice does not matter in the classroom. This leads to few female students raising their hands to participate.
Face to Face Class Observation

**Student perceived attentiveness.** Students were examined by evaluating the interaction in the face to face classroom. Attentiveness was evaluated through the examination of the student’s willingness to engage in the class through verbal cues, non verbal cues, and technological tools. Society has internalized communication patterns from our own schooling or from our own society (Carinci, 2009; Denton, 2007).

**Eye contact comparison.** Students were evaluated by the amount of times they participated or interacted by providing eye contact. Eye contact was defined as connecting with a person and locking eyes for more than three seconds. Males through the course of the semester had more occurrences of making eye contact with a peer or instructor throughout the course of the semester. The student to eye contact ratio consisted of a high of 17 out of 27 (62%) males in the class initiating eye contact as opposed to 10 out of 24 (42%) females initiating eye contact. The lack of participation by female students may have been a result of participation not being encouraged in the class design. Current research indicates, teachers as a group tend to provide longer wait times for boys, give more eye contact or listening to boys (Carinci, 2009; Denton, 2007).

**Use of technology.** Students were also observed on the use of technology in the classroom. Technology was defined as the use of cell phones, tablets, and laptops during the course of instruction; focusing specifically on technology as a distraction. The researcher found that the majority of students used cellular phones to text message
in the classroom. As the semester progressed, females used their phones more often in class. Of the students that used technology in class, 79% of those students were females. Using technology as a distraction demonstrates the female students disinterest in the topic or what was being discussed in lecture. As indicated through observation, the gradual increase in technology use implied that the female students were cautious with using technology at the beginning of the semester and became more risk takers as the semester progressed. Technology use increased during week five of the semester. The researcher identified the increase in technology could be caused from a loss of interest in the course. Current research suggests that female students become disengaged because they do not see themselves in the curriculum and do not feel relevant in what is being taught. They may also feel that they do not have anything to contribute to the topic, “learned helplessness”. The concept where students subconsciously set negative expectations for themselves. These ideals can be developed from teacher behavior (Noddings, 2005). Technology allows for the female students to disconnect from the course while still physically being present in classroom environment.

**Student note taking.** Students were observed on the rate at which they took notes during lecture. Cues to the observer consisted of students writing when instructor presented information, asking the professor to repeat a statement, or go back to a previous PowerPoint slide. The rate of note taking was a direct impact from the instructor teaching style. It was expected that the students know the exact material that was presented in the lecture format. Females more progressively took notes as the
semester progressed. Of the 24 females in the class 20 of them were identified as taking notes. Males also took notes as well throughout the course of the semester, they totaled 13 males out of 27. Males did not have the sudden increase in note taking that the females did. Males may not feel the necessity to take notes on everything the instructor states during a lecture. Males can have the sense of power and control in the classroom (Denton, 2007). Research suggests that female students are not going to participate as much because the discussion could be perceived as hostile (Tannen, 1991). Thus indicating the increase and importance of note taking for the female students. The idea of note taking shows that students are taught in an environment where they cannot enjoy the process of learning but are overly concerned about doing well on tests and passing the class.

**Student raising hands.** Students were examined as to how they interacted with the instructor in regards to participating. There was not an extensive amount of participation in the face to face classroom. The lack of participation was strategically designed by the instructor. The lack of participation may have been based on the fact that it was heavily lecture oriented and the instructor did not encourage discussion. The students were observed on the amount of times a particular student raised their hand to speak in the class. Twice the amount of males as opposed to females raised their hand to speak; 12 males to 6 females. Males consistently increased participation by raising their hand as the semester progressed. This trend may have contributed to the males becoming more confident as the semester moved forward.
Faculty Interaction Patterns

**Calling on students.** The classroom setting was observed and identified the interaction patterns between the instructor and students. Overall, 13 students were called on, with nine of those students being males, and four were females. The attention provided to the males follows the current research. Males are given more attention in a public classroom setting with the assumption that males need to be occupied and kept on task in the classroom (Sadker & Zittleman, 2005). When teachers focus their activities on a certain genders learning style it causes an imbalance in the classroom (Carinci, 2009). The overwhelming selection of males can lead to females feeling discouraged and as if their voice does not matter.

**Probing questions.** In conjunction with students participating, the students also interact with the professor through being asked probing questions and being interrupted while speaking. There were nine males that were called on and four were asked a follow up probing question. There were four females that were called on and two were asked a follow up probing question. Males were asked significantly more probing questions during the course. Asking probing questions can check for understanding, and build confidence amongst the students. Teachers call on boys more often them girls, wait longer for boys' answers, and provide more precise feedback to boys (Sadker & Zittleman, 2005). With females not being asked as many probing questions, this leads to thoughts of unimportance or disinterest in what they have to contribute. Lack of engagement through probing questions can have negative impact on females’ likelihood to participate in the future.
**Interruptions.** Confidence is essential for a student to become willing to participate in front of the class. Many students provide their own insight and seek feedback from others. Instructors can often misconstrue giving feedback as restricting thoughts. The instructor can interrupt a student and not allow them to finish their thought. Being interrupted can cause confusion and a lack of confidence. When participating, three of the nine males were interrupted by the instructor, and three of the four females were interrupted by the instructor. Instructors have different expectations for females and males (Carinci, 2009). Instructors are more likely to encourage males to participate and interrupt in the classroom in comparison to females that behave in the same way (Sadker & Sadker 1994).

**Online Class Observations**

**Discussion timeliness.** Students were evaluated on the rate in which they submitted their discussion posts. The objective was to identify how the assignment submission was prioritized. The timeframes established were 3-5 days before, day before, due date, late, and if the discussion was resubmitted. Overall, the majority of the students submitted the posts on the due date. Males submitted the assignment earlier than females. There were 50% more females that submitted the assignment late then males. The rate of timeliness could establish that males placed more of a priority on the importance of the assignment and saw it as a priority. Students’ attention was focused on chronological order of posts, when the assignments were due, rather than importance of what the students were saying (Hewitt, 2003).
**Length of post.** Students were evaluated on the length of words posted in the discussions that they submitted. The word count was examined in order to identify how much content each student was submitting. The categories used to gage amount of length was 0-300 words, 300-600 words, and 600-1,000 words. The majority of the students fell between 300-600 words. More females then males contributed posts from 0-300 words. More males contributed posts from 600-1,000 words. This data concludes, despite being in an online environment, females seemed to restrict their own voice. Females lack of participation can be a result of not feeling they can contribute or did not feel connected to what they were asked to write about. Online discussion is a valuable tool as it provides greater opportunity for shy individuals to participate in group discussions. Students are more likely to feel comfortable to voice their opinions in an online class (Ramli, 2010). The sharing of opinions through an online class makes the collective knowledge of the class more accessible. The online communication format allows students time for reflection before they commit their ideas to public scrutiny (Jaffee, 1997). Males who wrote 600-1,000 used a higher word count added more content to their posts. They may have wanted to make an impression and over express to the professor that they understand the content. In regards to competition, some males may feel the more they write, the better the professor will grade them or view them as a student in the classroom.

**Student voice in online discussion.** The students were evaluated on the type of content presented in the online discussion posts. The categories examined consisted
of the use of academic tone, academic sources, casual tone, personal opinion, and personal examples.

Academic tone was evaluated by the structure of the post; whether it was constructed in modern essay format, 5-7 sentences in a paragraph, minimal use of “I” or “we” statements, and introduction, body, and conclusion. The majority of students followed this format. Throughout a student's education, they are taught into believing that academic writing is the only form of expression accepted in an educational setting (Armstrong, 1996). Casual tone consisted of shorter, choppy sentences, numerous “I” statements, and allowed for the reader to feel like it was a conversation between them and the instructor.

Personal examples and personal opinion can identify the authors ability to connect with content from the curriculum and their ability to relate it to their own lives. Personal opinion focused on how the student felt about any given statement or fact presented by the material being discussed. Personal examples focused on the student giving a specific example about their own life and talking about how their own example related to the content and research they were discussing. The sharing of opinions through an online class makes the collective knowledge of the class more accessible. The online communication format allows students time for reflection before they commit their ideas to public scrutiny (Jaffee, 1997). Overall, female students utilized personal opinions, and personal examples more than males. Females used personal stories 85% more than males did. Females may feel more vulnerable and willing to voice their opinion and self disclosure because they are communicating
in an online setting and can collect their thoughts before hand (Jaffee, 1997). They may feel that situations that have occurred in their life will add value to the content. Males did not use personal opinion or examples as heavily as the females. This could pattern possibly be because they feel that providing specific facts from sources as being more valid. They also may feel that they will get less of a grade if they divulge personal information in their writing.

**Notable Findings**

**Subject Matter of the Course**

The topic of class being observed had an impact on the way that the students interacted in the classroom. The content consisted of myths, religion, and the analysis of beliefs in modern and ancient times. This topic allowed for the professor to establish social norms, and culture the various beliefs. The curriculum ignored any type of examination of equity or analysis of gender values.

**Instructor Background and Teacher Training**

This topic was not the intent of the study, however, observing the class design and student to instructor interaction allowed for the researcher to question the teaching interaction methods used in the course. The professor had been teaching at the university level for fourteen years. It was not apparent in the interaction that the instructor had been given any teacher training or training on gender equitable approaches. The way that the instructor did or did not interact with the students showed a lack of awareness in regards to gender equity and how to fairly address all students. There is a sizable portion of educators in the American higher education
system who believe gender awareness and identifying gender inequities in the classroom are commonsense procedures and practice; or worse, they do not believe that these inequities exist (Olivieri, 2011). These views were apparent in the lack of interaction and way that students were called on in the course. The female students questions were dismissed as opposed to the male students who were asked follow up questions.

Conclusions

The qualitative nature of this study allowed for specific conclusions to be drawn about the interaction of a face to face class and online class in regards to gender. The current research for how men and women communicate in the classroom aligns with what was observed in the face to face class. Males are more likely to draw attention to the class by raising their hand and being called on to participate. Females are not called on as often as male students. Their opinion can be dismissed by being interrupted and feeling as if they do not matter. Online class allowed for female students to become more comfortable with voicing their opinions through online discussion posts. Female students are more likely to utilize self disclosure and are more open to participation and providing feedback.

This researcher concluded this study with the impression that the classroom environment can impact a student’s likelihood to feel connected. Student voice and participation should be important in face to face and online. The students were more likely to voice their opinion in an online platform, and the face to face classroom instructor discouraged participation and group work.
Student voice holds different meanings when comparing face to face and online classrooms. Female students are more likely to voice their opinion in an online class. The data from the study indicates, online participation less intimidating for female students. In an online classroom structure, females are given the opportunity to contemplate their thoughts before making a statement. Students are able to compose their thoughts before speaking without the fear of being scrutinized for their thoughts, or interrupted; thus making participating a less intimidating and more inclusive environment.

**Limitations**

One limitation of this study was the small population of students within the study; the research was not necessarily an exact representation of all college students in California. The population consisted of students enrolled in a class with a specific department and specific professor. Additional classes being observed in various disciplines would have increased the significance and validity of the study. A lack of access limited the study because consent was required by a instructor who was teaching two courses, a face to face and online class of the same course in the same semester.

Comparing the two different dynamics of classes could also be presented as a limitation. The classes were observed using two different types of rubrics. The observation of the face to face class was solely based on what was being physically identified at that point in time. The class was not recorded so there was not an opportunity to go back to re-examine the environment. The online class allowed for
misinterpretation of communication as well. The observer was only viewing the textual dialogue. There is potential for misinterpretation of dialogue consisting of tone, emotion, and feeling behind what was being communicated.

The instructional design of both classes presented a limitation. The face to face class was purely lecture based. The professor conducted class by presenting information and classroom interaction between students and students with the professor was extremely limited. Interaction would only occur when the professor asked an occasional question to check for understanding or a student would have a question. The online class was lecture focused as well. The students answered discussion questions to the professor. There was no interaction between students in the online class. The online format left no ability for collaboration, checking for understanding, or cooperative learning in an online environment.

**Recommendations**

The data obtained from this study indicated that there are trends between the interaction of a face to face and online class in regards to gender. It would be beneficial to expand the intent of this study with more institutions; this would allow trends to be reflective of other face to face and online courses. The research questions from this study could also be applied to a quantitative study. The details captured from the student’s perspective could be seen as valuable in uncovering the effectiveness of these teaching modalities.

Additionally, there was an excess of data acquired during this study. The researcher recommends surveying students on their perception in participating in an
online class. Surveying students would provide insight into students’ feelings about interacting in both types of classes. Surveys would also uncover specific details about the students that are not provided in an observation. It may also be beneficial to interview professors and establish the professor’s perception of student participation. Interviewing would allow for the researcher to uncover the professors’ reasoning behind the class design and participation standards. Future research could also identify specific details such as teacher training to instructor on classroom interaction, gender fair approaches, and online collaboration strategies.
APPENDIX A

Face to Face Observation Consent Form
Informed Consent for Participation CSUS: Sacramento Thesis Research Study

My name is Elizabeth Guerra and I am a current graduate student of the Master of Arts in Education at California State University, Sacramento. You are being asked to participate in a observational study which will be analyzing the communication patterns between and online and lecture based classroom. Your participation involves being observed in your ANTH 13 classroom environment.

Your participation is voluntary. You may quit at any time without consequences. As a researcher, I will not be interacting with any students or changing the normal routine of this course. Confidentially will be obtained and real names will not be collected or used for the purposes of this study.

The results of this research study will be available after January 1, 2015. If you would like a copy of the results or have any questions, please contact:

Elizabeth Guerra Email: eig25@csus.edu

Thank you for your time and participation. Your signature below indicates that you have read this page and agree to participate in the research.

__________________________  __________________
Signature of Participant      Date
APPENDIX B

Face to Face Observation Rubric
# Face to Face Observation

**Date of Observation:** ______

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APPENDIX C

Online Observation Rubric
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