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The effect of cold calling and culture on communication apprehension

Kimberly Noreen Aguilar

THE EFFECT OF COLD CALLING AND CULTURE ON COMMUNICATION APPREHENSION

A Thesis

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ABSTRACT

Instructors utilize various pedagogical strategies in their classrooms in order to share information with their students and improve learning outcomes. When employing the discussion method in class, cold calling (i.e., students are called on when their hands are not raised) can be utilized as a means of increasing participation. Scholarly literature pertaining to the use of cold calling and its effects on students with communication apprehension (CA), however, is contradictory. Thus, the purpose of this study was to ascertain whether cold calling improved, maintained, or worsened students' levels of CA and sought to understand the effects that culture and cold calling may have on students with CA within the framework of Uncertainty Reduction Theory. Participants were 189 undergraduate students at a medium sized Western university who completed surveys at the beginning and ending of an academic quarter and were enrolled in an introductory public speaking course. Reported CA decreased over the course of an academic quarter, but was not necessarily because of an instructor's choice to utilize cold calling. In addition, based on the results, culture and condition (experimental or control group) did not have an effect on the decrease in CA. Nonetheless, these findings demonstrate that cold calling is a viable teaching strategy because it did not increase CA in students, as feared by some scholars.

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CHAPTER ONE

INTRODUCTION OF THE PROBLEM

The classroom is a unique place. It is an environment that fosters learning, hosts a variety of interpersonal relationships, and provides a venue for many interactions to occur. Communication, however, is the single most important activity that transpires in a classroom as Cooper and Simonds (2007) emphasized, "Without communication, teaching and learning would be impossible" (p. 1). Communication scholars are concerned with a field of study that involves "the systematic process in which people interact through symbols to create and interpret meanings" (Wood, 2006, p. 12). In the context of the classroom, communication researchers are not only concerned with the communication between students and teachers, but they are interested in the communication among students as well.

Recently higher education has experienced a shift in the paradigms that exist in the learning environment. According to Fink (2003), no longer is a student merely a "passive vessel to be filled by faculty's knowledge," but instead students are now considered "active constructor[s], discoverer[s], and transformer[s] of knowledge" (p. 19). Further, Ornstein and Levine (2008) expressed that students "learn most successfully and satisfyingly when engaged in the active exploration of their environment and when constructing their own meaning of reality based on their direct experiences" (p. 187). In this study, I adopted Cooper and

Simonds' (2007) definition of communication within the context of the classroom as "the verbal and nonverbal transactions between teachers and students" (p. 8). Not only are instructors designing courses that encourage students to take an active role in their education, but as Waldeck (2007) found, students seek a personalized education in which their participation helps them construct their own knowledge. Furthermore, researchers have pointed out that communication is transactional in nature (see, e.g., Cooper & Simonds, 2007; Wood, 2006). In the transactional model of communication, the communicators (instructor and students) participate proportionately. Contemporary instructors are encouraged to create a learning environment in which the teaching responsibility is shared with students. One method of creating such an atmosphere is to employ the discussion method in class.

Educators are charged with the responsibility of sharing information with students and, in order to do so, they use various instructional strategies in their classrooms. A range of instructional strategies exists. For instance, Cooper and Simonds (2007) specified that these instructional strategies might include "lecture, discussion, experiential activities, storytelling, independent study, small group instruction, [and] peer instruction" (p. 103). Since students possess different learning styles, the instructor may utilize numerous strategies on any given day. Consideration by an instructor must be given to their personal expertise, the objective of the lesson, the type of students in the class, and the classroom environment.

If an instructor's pedagogical approach emphasizes student participation and critical thinking, she or he may apply an interactive mode of instruction such as the discussion method. Classroom discussion is suitable when a teacher is comfortable leading the learning process, but is also flexible in surrendering some power by sharing and "shifting the responsibility [of teaching] to students" (Powell & Caseau, 2004, p. 193). The discussion method as a teaching strategy has distinct advantages including increased student attentiveness to assignments and exposure to other students' thoughts and ideas (Cooper & Simonds, 2007). Student input through sharing personal experiences and examples may help bring understanding to a particular topic.

Cooper and Simonds (2007) suggested that there are five characteristics of the discussion method, which include "experiential learning, an emphasis on students, focus on critical thinking, use of questions, and responses to questions" (p. 137). Instructors who utilize the discussion method in their classrooms must carefully plan how to get the discussion started and maintain the discussion as well by keeping it on track and ensuring that it relates to the topic. When using the discussion method, student participation is typically encouraged through the use of questions posed by the instructor, also known as the Socratic method. While it may seem as though this method implies allowing the discussion to simply evolve organically, it is imperative for an instructor to prepare questions that encourage the students to think critically and elicit responses that students can share with the entire class.

Since instructor questions can "excite... [and] stimulate inquiry" (Christensen, 1991, p. 156), it is necessary for instructors to develop a questioning strategy. One resource educators may consider when deciding on what type of questions to ask is Bloom's Taxonomy, which articulates that there are different levels of questioning such as recalling, understanding, problem solving, creating, and judging (see Bloom, Engelhart, Furst, Hill, & Krathwohl, 1956). The types of questions that instructors typically ask are included in textbooks such as Cooper and Simonds' (2007) *Communication for the Classroom Teacher*. However, a lack of suggestions exists in the literature on how to generate student participation.

Classroom communication researchers have previously attempted to define participation, yet there are numerous interpretations on what constitutes participation. In a recent literature review regarding student participation Rocca (2010) explained, "participation can be seen as an active engagement process" and "can come in many different forms including students' questions and comments" (p. 187). Rocca (2010) also found that participation definitions were highly quantitative in nature, but for the most part did not measure the quality of student contributions. Furthermore, Meyer (2008) argued that students consider participation as "oral engagement, while others remain silent" (p. 5) and believe participation can be achieved by "paying attention, [or] taking notes" (p. 5).

Although every student may have a perspective to offer on a given subject, it does not necessarily mean that every student will participate verbally.

This is evident as Hertenstein (1991) stated that "students learn in two ways: through their own active participation and through the contributions of others" (p. 175). Based on Hertenstein's suggestion, an instructor may want to encourage participation from students in the class. Yet, even in the most effective situations, some students simply do not speak up for a variety of reasons. In order to emphasize the importance of such verbal participation, the instructor may choose to implement another type of teaching strategy, "cold calling." Cold calling is an instructional strategy in which students are randomly called on when their hands are not raised and is a form of nonvoluntary student participation (Dallimore, Hertenstein, & Platt, 2004).

The topic of cold calling in the classroom has recently garnered attention from researchers in the field of both classroom and instructional communication (Bean & Peterson, 1998; Dallimore, Hertenstein, & Platt, 2004, 2005, 2006; Souza, Dallimore, Pilling, & Aoki, 2007). As Sprague (1992) detailed, classroom communication research focuses on "the pedagogy of effective communication" (p. 1), while instructional communication researchers seek to discover "how to use communication to teach" (p. 1). Research on cold calling by classroom and instructional communication scholars could be beneficial because generally, instructors have resisted the idea of cold calling. Teachers have previously maintained the attitude that cold calling has the potential to "make students feel uncomfortable, or worse, humiliated" (Dallimore et al., 2006, p. 358). In fact, when Dallimore et al. (2005) surveyed instructors who took part in a panel

regarding increasing student participation, a majority of educators responded that they would not consider utilizing cold calling in their classrooms in order to increase student involvement in class discussions. Moreover, a number of instructors suggested that they "believe it [cold calling] is harmful to students" (Dallimore et al., 2005, p. 32).

Student Participation Behaviors

Student participation is normally a desired behavior by instructors (Fassinger, 2000; Lu & Hsu, 2008; McPherson & Liang, 2007; Tatar, 2005). Verbal engagement in class discussion can oftentimes signal a student's comprehension of course objectives and material. Much instructional communication research is dedicated to the examination of student participation patterns and several areas of research have emerged in the literature on student participation in the classroom. Researchers have explored students who are compulsive communicators (see, e.g., Long, Fortney, & Johnson, 2000; McCroskey & Richmond, 1993), students who are apprehensive about communication in the classroom (see, e.g., McCroskey, 1977), students' motives to communicate and engage in the class dialogue (see, e.g., Martin, Myers, & Mottet, 1999, 2002; Myers, Edwards, Wahl, & Martin, 2007), and learning styles and culture (see, e.g., Grossman, 1995; Lustig & Koester, 2010).

Compulsive Communicators

One area of research that has emerged in the literature regarding classroom communication and student participation is the notion of students as compulsive communicators in the classroom. Compulsive communicators (CCs) have been described as "talkaholics," or those people who have the propensity to over-communicate (McCroskey & Richmond, 1993). McCroskey and Richmond developed the self-reported "Talkaholic Scale," in which CCs can be identified by answering a ten-item Likert-type instrument. While in the classroom student participation is usually a desired student behavior, CCs have the potential to dominate discussions and disrupt the learning environment. McCroskey and Richmond liken the talkaholic student's tendencies to that of an alcoholic, whose behaviors are compulsive, uncontrollable, and excessive. McCroskey and Richmond identified four main talkaholic characteristics which include: (a) highly and excessively talkative verbal patterns, (b) self-awareness; that is, knowledge that these behaviors are "seen as excessive by others" (p. 109), (c) the excessive behaviors often occurring in the majority of communication contexts, and (d) continuing the behavior even when punishment is imminent.

Other scholars have investigated CCs and talkaholism (e.g., Fortney, Johnson, & Long, 2001; McPherson & Liang, 2007). Long, Fortney, and Johnson (2000) furthered McCroskey and Richmond's (1993) research by creating an observer-based "TS [Talkaholic Scale] Observer Report." The scale produced by Long et al. (2000), used in conjunction with the "Talkaholic Scale," indicated that

there is a significant positive correlation between self-reports and observer-based reports of talkaholics. That is, over talkativeness in the classroom is identified both by the over talker and other students. The two research instruments developed by McCroskey and Richmond (1993) and Long et al. (2000) have helped further the understanding of the potential negative impact that compulsive communicators can have on the learning environment.

Communication Apprehension in the Classroom

Martin et al. (2002) noted that a "continuum of participation" (p. 38) exists. On one side of the continuum is the student who over-participates, CCs. This student participates in an attempt "to demonstrate to their instructors that they are interested in the class and that they understand the material" (Martin et al., 1999, p. 160). On the other side of the continuum is the student who does not verbally participate irrespective of the incentive or punishment and is often identified as a student who has communication apprehension. Communication apprehension (CA) is manifested in the "individual [who] is fearful of communication" (Cooper & Simonds, 2007, p. 115). Rocca (2010) noted several reasons that students do not participate which include communication apprehension, lack of confidence, logistics, personality traits, the instructor's influence, classroom climate, and "student and/or instructor sex differences" (p. 197). It is important to note that a student's silence does not necessarily indicate disinterest in the communication that is taking place in the learning environment (see, e.g., Meyer, 2008).

Students' communication and participation behavior, whether of the CA or CC sort, can affect the learning atmosphere. Martin et al. (2002) suggested, "most students are not at the extremes" (p. 38); yet, surprisingly the majority of research is dedicated to those very extremes. Hertenstein (1991) addressed the typical student participator by stating that the "most effective contributors are often students who carefully choose their opportunities" (p. 180) to communicate.

Student Motives for Classroom Participation

The third major area of research that emerged in the literature regarding classroom communication and participation was students' motives to communicate and engage in the class dialogue (see, e.g., Martin et al., 1999, 2002; Myers et al., 2007). The "Student Communication Motives" scale Martin et al. (1999) created was used to gauge a student's reasons for communicating with an instructor. Five major categories emerged in their study on student motives to participate: (a) relational purposes (i.e., establishing a relationship with the instructor), (b) functional purposes (e.g., getting information about aspects of the course), (c) excuse-making, (d) sycophancy (i.e., flattering or "brown-nosing" the instructor), and (e) participation purposes (demonstrating interest and comprehension of the material).

Learning Styles and Culture

Finally, a variety of factors can influence one's communication behaviors in the classroom. This may include psychological states such as confidence level or biological traits such as culture. Cultures encourage or discourage particular

learning styles that will likely affect how a student communicates in the classroom. Sarasin (2006) acknowledged three learning styles: (a) auditory learners (students who learn by listening), (b) visual learners (this type of student learns by seeing examples), and (c) tactile/kinesthetic learners (students who "actually [do] something in order to learn", p. 79). However, she neglects associating various learning styles with particular cultures.

Other scholars, however, do investigate learning styles with cultures. For instance, Cooper and Simonds (2007) pointed out that "Hispanic and Asian cultures expect students to learn by listening, observing, and imitating" (p. 242). Likewise, Grossman (1995) explained, "many students, including African American, Hispanic Americans, Haitian Americans and Hmong Americans tend to be aural [auditory] learners" (p. 269). Furthermore, Lustig and Koester (2010) described European American students as "speaker-active" (p. 293) and that "willingness to speak in class is a communication characteristic highly valued by European American teachers and students" (p. 294). Based on this brief review, it is clear that in addition to the frequency of communication and motives to participate, a student's culture affects their reaction to a discussion-based learning environment.

Statement of the Problem

In order to continually improve pedagogy, it is important for instructors to understand the differing types of student participation behaviors and the role that

culture plays in student participation behaviors within the teaching-learning context. Furthermore, as the introduction alludes, there may be an interesting dynamic between the instructional participative strategy of cold calling and communication apprehensive students. That is, while some scholars encourage cold calling to improve verbal classroom participation, others fear negative consequences on the student with CA. However, it is not clear whether students with CA respond positively or negatively to this strategy. Based on what is known in the literature, few scholars have juxtaposed "forced" participation vis-à-vis cold calling with CA. Thus, to develop our knowledge about education and improve on the learning process, it is essential to research the intersection of cold calling and CA.

To further complicate the cold calling strategy to increase student participation in the classroom, as the introduction demonstrates, culture is yet another factor to consider since not all cultures learn the same way. That is, despite scholar's suggestions to implement cold calling as a pedagogical strategy, thought must be given to the students' culture. Scant scholars have examined the various ethnicities within the U.S. classroom and its impacts on learning strategies, classroom behaviors, and participation. For that reason, it is not yet known if cold calling has positive or negative impacts in a culturally diverse learning environment.

Thesis Preview

To address these problems, this thesis is two-fold. First, I desired to investigate whether or not cold calling has a positive, negative, or neutral impact on students' communication apprehension. Second, I wanted to research the correlation between cold calling and culture. To do this, my thesis includes a review of the literature on cold calling as a teaching technique to garner classroom participation, the impact of communication apprehension on classroom participation, and the influence of culture in the classroom. Next, Chapter 2 describes the theoretical approach, uncertainty reduction theory (Berger & Calabrese, 1975), which was utilized in this study in order to understand cold calling, culture, and communication apprehension. An accompanying literature review of uncertainty reduction theory is also included. Chapter 3 identifies and explains the quantitative methods used to address the research questions for this study. Specifically, the chapter includes an explanation of the participants, measures, procedures, and data analysis employed in this thesis. Chapter 4 provides the survey results of this study. Finally, Chapter 5 contains the discussion, implications, limitations, and future research related to the topic of student participation, cold calling, communication apprehension, and culture in the classroom.

Review of Literature

Cold Calling

Early research of calling on students in class comes from the Harvard Business School where the discussion method is the primary pedagogical approach used by instructors (Christensen & Hansen, 1987). The "case method" is an application-based teaching technique that emphasizes problem-solving. Upon the students' completion of reading and considering the dilemma presented in the case, a class discussion ensues. Through discussion, students are expected to use examination, assessment, and synthesis to find solutions to the business problem presented.

Nonvoluntary student participation is a subject that appears frequently in the book *Teaching and the Case Method* (Christensen & Hansen, 1987). In a chapter authored by Hansen (1991), she noted that "case discussions often begin with the instructor calling on a student 'cold'" and continued to define 'cold' as "without previous warning" (p. 134). Rosmarin (1987) participated in a seminar taught by Christensen and observed that courses began with review of the previous days' material. Two students "who did not know in advance [they] would be called on" were then asked to present their "analyses of the assigned case" (p. 235).

Although direct mentions of cold calling in the literature are limited, attention has been devoted to the topic relatively recently. Instructional and classroom communication scholars Bean and Peterson (1998), Qualters (2000),

Dallimore et al. (2004, 2005, 2006), and Souza et al. (2007) have all discussed the use of cold calling in the classroom. Several of these scholars advocate the instructional approach. Dallimore et al. (2004, 2005, 2006) and Souza et al. (2007), for instance, found that cold calling increases the preparedness of students, their frequency of participation, and contributes to a comfortable classroom climate.

The term "cold calling" was adapted from the practice of business. Cold calling in the business context refers to a salesperson, usually via telephone, contacting a person without solicitation to attempt to sell a product. Within the framework of the classroom, the term "cold call" applies to the version of discussion teaching also known as the Socratic method. This method typically used in both law schools and business schools is a tool to "engage students in a discussion" ("Socratic Method", 2008, ¶ 3). The Greek philosopher Socrates used questions to invoke insight from his students and challenge them to critically think. A portrayal of the Socratic method is evident in the 1972 motion picture *The Paper Chase* that depicted a Harvard Law School professor posing questions to his students and then "call[ing] on students at random to formulate their answers" (Bean & Peterson, 1998, p. 34). However, the portrayal of random question asking in the film is an exaggerated version of cold calling and is not necessarily the approach that modern researchers study.

Implementation of Cold Calling in the Classroom. Several direct mentions to cold calling and the implementation of the Socratic method have been

published in books and scholarly journals (Bean & Peterson, 1998; Dallimore et al., 2004, 2005, 2006; Qualters, 2000; Souza et al., 2007). Throughout the literature regarding applying cold calling several suggestions have emerged such as having instructors explain their pedagogical approach to students, recommending instructors emphasize their expectations to the students, encouraging instructors to sustain a commitment to creating and maintaining a supportive and comfortable classroom climate, and persuading instructors to use "warm" cold calls instead of "icy" cold calls.

The first suggestion that emerged when discussing the application of cold calling was instructor explanation of the pedagogical approach that will be utilized in the classroom. Since cold calling is employed mainly in the discussion-based classroom, it is necessary to indicate that this type of teaching strategy is student-centered. Because discussion teaching requires student participation, it is important to share with them why their participation is so crucial to the class dialogue.

Cooper and Simonds (2007) believed that an emphasis on students is a characteristic of using the discussion method and expressed that "it is [the students'] experiences that serve as the basis for the discussion" (p. 136). So that all students may take an active role in their learning experience in class, Souza et al. (2007) recommended that instructors explain their reasons behind using cold calling as a questioning technique throughout the discussions. Souza et al. (2007) suggested that an instructor should be "explicit about the choice,

rationale, and advantages of cold calling" (p. 12). Additionally, instructors should be unambiguous when defining cold calling. Dallimore et al. (2004, 2005, 2006) and Souza et al. (2007) defined cold calling to discussion participants as "calling on students whose hands are not raised" (p. 12). In Bean and Peterson (1998), Peterson notified his students that his instructional strategy and questioning technique are applied in order to "[draw] all class members into conversation" (p. 34) and characterized cold calling as calling on students randomly and individually.

A second suggestion emergent in the literature regarding the implementation of cold calling is teacher expectations. Hertenstein (1991) proposed, "Expected standards of performance in participation should be explained in early class meetings" (p. 181). Souza et al. (2007) concurred that successful execution of cold calling is preceded by a clear description of the instructor's expectations of the students at the outset of the quarter/semester. According to Bean and Peterson (1998) and Dallimore et al. (2004), perhaps the most important aspect of the explanation included the total percentage of classroom participation in regards to final course grade. In addition to orally informing students of grading procedures, the students found the expectations clearly outlined in their syllabus. Dallimore et al.'s (2004) study of an instructor's use of cold calling found the following in the course syllabus: "Your participation grade will be based on your contributions to the class discussions" (p. 106).

Thus, this served as an example of the importance of an instructor's expectations regarding student participation.

Dallimore et al. (2004) surveyed graduate students in order to generate a list of strategies that increased verbal participation; the most emergent response was required/graded participation. In fact, one student even commented that instructors should "make it [participation] a significant part of the grade" (Dallimore et al., 2004, p. 108). Moreover, when ideas were solicited from faculty members at several teaching workshops, "establishing the expectation of participation" (p. 51) was identified as a means to use cold calling effectively in the classroom (Dallimore et al., 2005). Bean and Peterson (1998) summed up the first two recommendations of cold calling implementation by asserting that they "believe grading class participation can send positive signals to students about the kind of learning and thinking an instructor values...[and] can justify the emphasis they place on [graded] participation" (p. 33).

Next, the literature indicated that if instructors decide to apply cold calling in their classrooms, they must be dedicated to the creation and maintenance of a supportive classroom climate and concern themselves with preserving student comfort. Cooper and Simonds (2007) identified openness, confidence, acceptance, belonging, and high expectations as characteristics of a supportive classroom climate. These same attributes surfaced in research by Souza et al. (2007) who challenged the assumption by many instructors who insist that cold

calling "sabotages the communication climate and makes students extremely uncomfortable" (p. 2).

With regard to student comfort, pretest analysis (administered at the beginning of a term) indicated that students in a course that utilized the discussion method were "somewhat comfortable participating in class discussions" (Souza et al., 2007, p. 15). By the end of the study in which cold calling was employed, students' comfort level in discussions increased to a "moderately high level of comfort" (p. 15). This improvement in student comfort may have been a result of the two earlier themes described (explanation of pedagogical approach and expressed teacher expectations). As Souza et al.'s (2007) results illustrated, the comfort levels reported by students only applied to the course being evaluated for the study, not necessarily an increased comfort in all classes. Also, students commented "the instructors helped them to feel comfortable by...creating an environment that was...supportive" (Souza et al., 2007, p. 17).

With the knowledge that an instructor can have an impact on a supportive classroom climate, Souza et al. (2007) examined the impact of cold calling on communication climate. Several topics surfaced and aligned with the previous understanding of what constitutes a supportive climate. To begin, students in their study reported a climate of confirmation. The indicators of such a climate were "accepting communication, nonjudgmental communication...and respectful

communication" (p. 19) and demonstrated one of the characteristics of a supportive climate, acceptance.

Next, students in Souza et al.'s (2007) study specified that there was a climate of engagement. Signs of this climate included "expectation of participation, equal student involvement" (p. 19). This corresponded with Dallimore et al.'s (2004) research of student-generated ideas in which the scholars suggested that instructor expectations be clearly stated. Students in Souza et al.'s (2007) research articulated that an element to the climate of engagement also included confidence as one student commented, "As I started participating more, I felt more confident" (p. 41). Third, instructors fostered a climate of freedom. An important feature of a supportive climate is openness and this was observed in a cold calling environment because as Souza et al. (2007) noted, it allowed for "open communication, unrestricted communication, and discussion-based communication" (p. 20).

A student's sense of belonging affected communication climate. "Knowing the students, the instructor, and the environment" (Souza et al., 2007, p. 20) was another common theme among student responses. Souza et al. (2007) posited that when students feel comfortable with and around one another, participation becomes easier and increases as well. Their research contradicted some of the common misconceptions held by instructors that "cold calling decreases student comfort" (p. 21) and indicated that "elements of a supportive climate" (p. 23) can exist in a cold calling environment.

Finally, the last suggestion that emerged when reviewing the literature regarding the application of cold calling in the classroom was the instructor's use of "warm" cold calls instead of "icy" cold calls. Christensen (1991) illustrated the nature of a teacher inquiry by stating, "An instructor can pose a question as a request for a contribution – with outstretched, open hands – or a demand enclosed in a clenched fist" (p. 158). Dallimore et al. (2005, 2006) similarly recognized that there is a difference in the types of cold calls that exist. For example, "icy" cold calls, according to Dallimore et al. (2005), describe questions that are intimidating, threatening, or daunting. On the other hand, "warm" cold calls, they claimed, are defined as questions that encourage and promote student participation.

Dallimore et al. (2006) suggested three ways to transform "icy" cold calls into "warm" cold calls. They are "response preparation time, question difficulty, and student selection patterns" (p. 372). The first approach in warming up cold calls included providing "students time to prepare and answer" (p. 372). Thus, when instructors only allowed a short amount of time for students to organize their thoughts about a topic, the result is an "icy" cold call. Dallimore et al. (2005) proposed "forewarning students" and "allowing the sharing of ideas [with small groups] before responding" (p. 47).

Another method to "warm up" cold calls is the instructor's use of open-ended questions early in the term to encourage participation (Dallimore et al., 2005). To do so, an instructor may pose "simpler questions" to promote student

contributions which is designed to "increase confidence" (Dallimore et al., 2006, p. 372) and encourage students to participate in future discussions. Once students have shown responsiveness to the instructor's use of questions, "icy" cold calls such as "closed-ended" questions can be transformed into "warm" cold calls through the use of "open questions" which do not have "one right answer" (Dallimore et al., 2005, p. 49).

As a third and final point, instructors who participated in Dallimore et al.'s (2005) study suggested "that it is very different to call on a student to highlight his or her lack of preparation than to do so because you want to help the student to expand his or her understanding of a topic" (p. 37). Dallimore et al. (2006) advised instructors to be sure to cold call all students and not only "members of a certain group" (p. 372). An instructor's question is likely to be perceived as "icy" if questions are posed only to "weak," "insecure," or "shy" students (Dallimore et al., 2005, p. 49). To avoid this situation, Dallimore et al. (2005) concluded that an instructor should implement cold calling early on in the term "before participation patterns are established" (Dallimore et al., 2006, p. 372) in order for cold calls to be perceived as "warm" rather than "picking" on the weak, unprepared, shy, or possibly communication apprehensive, students.

It is evident that within the research on cold calling, suggestions regarding the successful implementation of the questioning technique are abundant. According to the literature, it is important for instructors to bear in mind that there are four main factors of cold calling implementation that must be considered: (1)

explanation of the discussion method as the primary instructional strategy, (2) clarification of instructor expectations, (3) a commitment to the establishment and preservation of a supportive classroom communication climate, and (4) instructor use of "warm" cold calls versus "icy" cold calls.

Benefits of Cold Calling. When students understand that an instructor values positive, educational classroom discussion, is clear in his or her expectations, and strives to uphold a comfortable classroom climate, cold calling can then be utilized effectively. In the limited literature that exists on cold calling, several benefits are evident. Even though Qualters (2000) advocated the use of cold calling for assessing student learning, she did not identify any other advantages to soliciting nonvoluntary participation. Dallimore et al. (2004, 2005, 2006), Souza et al. (2007), and Bean and Peterson (1998) commented that increased student preparation, raising the rate of participation, and improving student performance are benefits of utilizing cold calling in the classroom.

Increased Student Preparedness. As discussed earlier, considerations to appropriateness and lesson objectives are necessary when choosing an instructional strategy. Cooper and Simonds (2007) pointed out that utilizing classroom discussion can "increase students' awareness of class readings and lectures" (p. 134). Another reference to student preparedness came from Bean and Peterson (1998) who suggested that "students adjust their study habits accordingly...to be prepared for active participation " (p. 33) in class discussions. Further, Peterson posited that cold calling "motivates students to

become energetic readers of assigned material" (p. 37). Finally, Rosmarin (1987) participated in a seminar on how to lead classroom discussions and disclosed that at the beginning of class, two students were randomly chosen to share their analysis with the class. Rosmarin expressed "because we did not know in advance who would be called on, we all came prepared" (p. 235).

Dallimore et al. (2006) explained that students who participated in the study knew that the instructor had "high expectations about student preparation" (p. 360). The teacher who was observed in Dallimore et al.'s (2004) study also stated that in her syllabi: "the most important requirement for this course is thorough preparation" (p. 106).

In addition, Dallimore et al. (2004) found that one student stated, "The fact that professors call on most students to answer a question increases my incentive to prepare" (p. 108). Another student echoed the same opinion and explained that because the instructor was "clear from the beginning that this would be the format, everyone came to class prepared and on time" (p. 112). Likewise, Dallimore et al. (2006) maintained that students' "degree of preparation" increased (p. 362). Finally, Souza et al. (2007) explained overall "student comfort is not compromised by the practice of cold calling due to increased student preparation" (p. 10). Overall, the literature supported the idea that one of the main benefits to cold calling is that the teaching strategy increased overall student preparedness.

Raising the Rate of Participation. Bean and Peterson (1998) proposed "people are more comfortable speaking in class if they can prepare ahead of time" (p. 38). Dallimore et al. (2006) found a significant and positive correlation between student preparedness and the frequency of class participation. Even though researchers claimed student contributions increase through the use of cold calling (Souza et al., 2007), it is important to distinguish between mediocre student participation (i.e., "yes" or "no" answers) and quality student participation. Students and instructors separately participated in studies and provided several useful strategies to increase quality participation in class discussions (see Dallimore et al., 2004, 2005). The rationale behind using a questioning strategy such as cold calling has several elements that include utilizing an "active facilitation style," "asking effective questions," and "affirming students' contributions" (Dallimore et al., 2005, pp. 51-56).

Thus, instructors should consider their abilities when deciding to use the discussion method in their classroom. Research indicates that both students and instructors recognized the significance in an instructor's capacity for facilitating a discussion skillfully (Dallimore et al., 2005). The ideas were drawn from student comments such as "stimulat[ing] and lead[ing] the discussion on the right track" (Dallimore et al., 2004, p. 109) and "challenging them [students] to answer more in depth" (Dallimore et al., 2004, p. 109). Instructor recommendations included issues surrounding rigidity and flexibility ("make it through many people who answer wrong; finally professor answers it [question]") and produced similar

suggestions to the students when managing stimulation of conversation ("Play devil's advocate"; Dallimore et al., 2005, p. 53).

Interestingly, both instructors and students mentioned one significant point in facilitating class dialogue, techniques for quieting discussion dominators (Dallimore et al., 2004, 2005). Bean and Peterson (1998) idealized that class conversations should include the "whole class [and] all students would participate" (p. 35). Souza et al. (2007) agreed by admitting "one of the challenges in discussion facilitation is...allow[ing] multiple voices to be heard" (p. 2). Students and instructors alike recognized that skillful discussion leading required that a teacher possess the ability to quiet the overly talkative student and encourage the reticent student to participate.

Quality participation voiced from cold calling is also stimulated by an instructor's capability to ask open-ended questions that fit into Bloom's taxonomy (Dallimore et al., 2004). Again, both instructors and students distinguished this as a driving force behind valued contributions to a class conversation. Students advocated an instructor's use of "crucial," "clear," and "effective questions" (Dallimore et al., 2004, p. 109). Similarly, instructors realized the need to ask appropriate questions. Hertenstein (1991) corroborated this point by asserting, "the instructor can help to improve discussion by asking thoughtful questions" (p. 175). In 2007, Souza et al. investigated instructor use of cold calling and explained that the instructor "would ask a variety of types of questions... [using] Bloom's Taxonomy" (p. 12). Instead of posing closed-ended questions that may

have prohibited discussion, instructors and students advised that probing, open-ended questions, which promote different levels of cognition, should be utilized. This requires students to think and provide quality responses, ranging from knowledge and comprehension to synthesis and evaluation.

Lastly, according to the literature about the pedagogical implications of cold calling, students take their cue to participate based on their previous experiences with instructor responses. Souza et al. (2007) insisted, "students must feel as if they will not be ridiculed or shamed before they take the risk of participating" (p. 24). Cooper and Simonds (2007) offered ideas on how to respond to students. Their list included "respond[ing] to student answers positively and constructively, prais[ing] rather than criticiz[ing], and encourag[ing] student input" (p. 144). These suggestions were among strategies identified by students and instructors in a theme that explored "affirming contributions and providing constructive feedback" (Dallimore et al., 2004, p. 110; Dallimore et al., 2005, p. 56) in regard to student participation.

In Dallimore et al.'s (2004) study, students thought that the instructor should affirm their participation. Student participants in the study expressed their perception that teachers "value what the students say" and "seek value in student responses" (Dallimore et al., 2004, p. 110). The students also opined that feedback and criticism should be given responses. Additionally, they believed that constructive criticism and timely feedback encouraged more student participation. Even when a student's answer to a question was incorrect,

students in Dallimore et al.'s (2004) study revealed that in a cold calling learning environment "everyone benefits from both right and wrong answers" (p. 110) because the instructor clarified flawed responses.

Equally important to student perceptions was the fact that instructors were conscious of the fact that they should be respectful of responses during student participation. Instructors suggested that in order to keep a class conversation going, they used wrong answers "as a teaching moment" (Dallimore et al., 2005, p. 56) and made attempts to encourage student input by "getting others involved" (Dallimore et al., 2005, p. 56), attempting to readdress the original question to other students in the class. Clearly, the literature documents a second benefit of cold calling in that it could lead to an increased rate of student participation.

Improved Student Performance. Souza et al. (2007) "suggest[ed] that there was greater engagement where cold calling was present" (p. 24). If cold calling increases student preparation and raises the rate of participation, what are the implications on student performance? Christensen (1991) phrased it quite eloquently when he stated, "Questions initiate learning" (p. 156). Kahn (2007) revealed that in discussion-based courses, which included cold calling, "student achievement... [was] significantly enhanced" (p.16) and Christensen (1991) claimed that classroom discussion "improved retention on the part of students" (p. 15).

Although more research is certainly needed in the area regarding the correlation between cold calling and increased student performance, Dallimore et

al. (2006) proposed that overall student learning improved. In their study, students were surveyed early in the term and asked if their required participation affected their learning in a course. On a Likert-scale of 1-7 (1 indicating "learning less", 7 indicating "learning more") the mean student response was 5.63, an indication that indeed students felt they learned moderately more when enrolled in a class that utilized cold calling as a questioning strategy. At the end of the term, students in the Souza et al. (2007) study were asked to assess whether they believed their nonvoluntary participation enhanced their "learning of the subject matter" (p. 374). Again, students responded using a Likert-scale of 1-7 (1 indicating "not at all", 7 indicating "a lot"). The mean response was 5.43, which indicated that the student's learning was moderately increased by participating in a class in which the instructor utilized cold calling.

As evident in this literature review, the benefits of cold calling use in the classroom are multiple and varied. Scholarship indicates that the questioning technique leads to increased student preparation and a rise in the amount of student participation. Considering that the discussion method is a student-centered teaching philosophy, these effects are, to a certain degree, expected because it helps shift a portion of the learning responsibility to the student and encourages them to become accountable in their educational endeavors.

Communication Apprehension

As a teaching strategy, cold calling is of particular interest when considering communication apprehensive students. Widely studied by

communication scholars, communication apprehension (CA) can best be defined as "an individual's level of fear or anxiety associated with either real or anticipated communication with another person or persons" (McCroskey, 1977, p. 28). Within the context of the classroom, CA can have serious outcomes and effects on classroom discussions. The major areas of literature on CA describes and defines the term, explains the varied CA measurement instruments, explores the methods to reduce CA in the classroom, and investigates CA and culture.

Description of Communication Apprehension. The term "communication apprehension" has often been used as a blanket term for several associated terms such as reticence, shyness, unwillingness to communicate, and stage fright (Allen & Bourhis, 1996). When considering these terms, a substantial amount of overlap exists between each concept's components. The cause of CA is unknown, yet Cooper and Simonds (2007) pointed out that communication scholars generally accept four explanations for CA: (a) genetic predisposition (physical appearance, ability/disability), (b) skill acquisition (slow acquirement of language application, responsiveness to verbal and nonverbal speaker cues), (c) modeling (imitation of poor communication skills), and (d) reinforcement (positive and/or negative experiences with communication).

In the classroom, when the mode of instruction encourages dialogue with or amongst students (e.g., discussion method), Cooper and Simonds (2007) explained that students with CA "do not volunteer to participate in classroom question and answer sessions ... [and] generally avoid classroom discussions"

(pp. 151-152) altogether. McCroskey and McCroskey (2002) also reported that CA has the potential to lead to a student's internal discomfort, future communication avoidance, communication withdrawal, and in some rare cases, over-communication. Furthermore, previous studies found that students with CA perform poorly on standardized tests, earn lower overall grade point averages, and not surprisingly, do better in courses that are mass lecture courses due to the usually low participation requirement (McCroskey, 1977; McCroskey & Andersen, 1976; McCroskey & Payne, 1986). An instructor (through observation) can generally identify the communication apprehensive student, but many times a self-report can be given to the student to gauge the students' specific level of apprehension.

Communication Apprehension Measurement Instruments. McCroskey (1982) developed "The Personal Report on Communication Apprehension" (PRCA-24), an instrument which uses a Likert-type scale to measure levels of CA based on an individual's self-report. The PRCA-24 has been utilized in a multitude of communication studies on student participation patterns (see, e.g., Burk, 2001; Hsu, 2004; Mansson & Myers, 2009). Allen and Bourhis (1996) found that a constant negative correlation exists between the level of communication apprehension (based on the PRCA-24) and an individual's communication behavior (willingness/unwillingness to communicate, volunteer/avoidance of communication).

As noted, communication apprehension is synonymous with several other terms. One such related term is "shyness." McCroskey and Richmond (1991) generated a list of 14 statements along with a scoring system to detect student shyness. The Shyness Scale (SS) can be administered orally or can be given as a self-report instrument for the student to complete independently. The SS aids a teacher in identifying "which students will be highly verbal," possess lower communication desire, or have a "normal oral activity level" (Cooper & Simonds, 2007, pp. 152-154).

Another term often associated with communication apprehension is "unwillingness-to-communicate." Burgoon (1976) developed an instrument known as the Unwillingness to Communicate scale. This 24-item Likert-type scale was created in order to study communication across a variety of communication contexts and is beneficial to instructional communication research because it can be used to identify student introversion, communication apprehension, and low self-esteem. If a student has any of these three attributes and is in a class where an instructor encourages participation, a student may still desire to not take part in the classroom discussion. As a result of the creation and refinement of Burgoon's (1976) scale, subsequent research was dedicated to seeking instructional strategies to increase verbal participation and minimize the effects that CA can potentially have on classroom discussions (Bean & Peterson, 1998; Cooper & Simonds, 2007; Hertenstein, 1991; McCroskey & McCroskey, 2002; Powell & Caseau, 2004).

Methods to Reduce Communication Apprehension in the Classroom.

Powell and Caseau (2004) indicated that CA is "a construct found to constrain learning in the classroom" (p. 34). Because of this, it is not surprising that several instructional/classroom communication textbooks offer instructors identical suggestions to help the student with CA reduce or prevent their apprehension. These suggestions include reducing oral demands, making communication a satisfying experience, being consistent regarding communication, reducing vagueness, and increasing a student's control over success in the class (Chesebro & McCroskey, 2002; Cooper & Simonds, 2007; Dwyer, 1998; Powell & Caseau, 2004).

McCroskey and McCroskey (2002) proposed a list of methods to decrease CA in students. The first method of reducing CA is to reduce oral communication demands. McCroskey and McCroskey (2002) recommended that teachers should avoid verbal testing, avoid grading on participation, avoid alphabetical seating, and avoid randomly calling on students to respond. The second method of promoting communication and lessening CA is to make communication a satisfying experience by praising students when they participate, avoiding an indication that an answer is entirely incorrect, and not punishing any student for communicating in the classroom. The third method McCroskey and McCroskey (2002) suggested was that teachers should be "consistent about communication" (p. 32) through constancy in handling student talk and being transparent in the protocol of classroom communication. A fourth recommendation to decrease CA

in students is to reduce "ambiguity, novelty, and evaluation" which can be facilitated by making assignments concise and unambiguous, having transparency in the grading structure of the course, and "avoiding surprises" (pp. 32-33). Last, the fifth method to reduce CA that the authors advocated was increasing the students' control over success in the class by giving the student options on assignments and "be[ing] certain that the student can avoid communication and still do well in the course" (p. 33).

Thus, it is clear that scholars who study CA find it to be problematic as they offer several suggestions to improve this condition. While these suggestions are posed, they have not been tested to determine whether they are viable. Yet, there are numerous indications that cold calling and CA may not mix. This is particularly evident in the recommendations to reduce oral demand, avoid verbal testing, and avoid randomly calling on students. It is unclear how this can be accomplished in a basic public speaking course in which oral demands are required and verbal testing is synonymous with presenting speeches.

Culture

The classroom has increasingly become a more diverse place in both the composition of faculty as well as students. This diversity serves as an excellent source of varied cultures, possibly exposing students and instructors to a wide-range of beliefs, opinions, and values. While diversity may bring students and teachers in contact with differing cultures, a student's culture may also serve as the basis for an explanation of the varied participation patterns that exist in a

classroom. For this reason, it is important to explore the concept of culture, consider the role of culture in the classroom, and specifically, examine ethnicity as a salient category of culture.

Characteristics of Culture. To begin, culture is defined as the "learned and shared values, beliefs, and behaviors common to a particular group of people" (Orbe & Harris, 2001, p. 6). Hall (1976) greatly influenced the communication discipline's definition of culture. He explained that context is a significant contributing factor to culture and communication. Context is described in several different ways. Hall (1976) observed, "the level of context determines everything about the nature of communication" (p. 92). That is, a communication context is made up of "physical, social, and psychological features" (Powell & Caseau, 2004, p. 47). In applying these features to the classroom, context includes the physical location (the classroom), the social aspect (the interpersonal relationship between the student and teacher as well as the relationship between students), and the psychological facet (which includes the perspective and background [culture] of the student or teacher).

Another aspect of culture, according to Hall (1976), is high- and low-context communication tendencies. High-context communication is distinguished by "preprogrammed information that is in the receiver and in the setting, with only minimal information in the transmitted message" (p. 101). In contrast, low-context communication requires that "most of the information must be in the transmitted message in order to make up for what is missing in the context" (p. 101).

Generally, cultures fall into one of these two aforementioned tendencies of communication. Typically, Asian cultures (e.g., China and Japan) are classified as high-context cultures, while countries such as Germany and the U.S. are categorized as low-context cultures. In regard to this aspect of culture, Sudweeks (1993) observed that students from low-context cultures "attempt to make [their] point clear by emphasizing or restating" whereas students from high-context cultures "may speak simply and sparingly" (p. 3).

In addition to Hall's (1976) description of context, Hofstede (2001) also elaborated on the meaning of culture when he described culture as a type of "mental programming" that individuals experience. Furthermore, he discussed four important dimensions of culture that include: (a) power distance (how cultures view authority in society), (b) masculinity-femininity (the socially prescribed emotional roles of men and women), (c) uncertainty avoidance (the degree to which a culture can endure lack of certainty), and (d) individualism-collectivism (the level of interdependence or independence of individuals in a society). These dimensions have been studied extensively and several scholars have examined the implications that each may have in the academic context (see, e.g., Andersen & Powell, 1991; Lustig & Koester, 2010; Sudweeks, 1993).

Power distance is the degree to which a culture accepts or rejects power and authority. Cultures that have been identified as high in power distance include Mexico, Malaysia, and Singapore. Low power distance cultures include Australia, the U.S., and New Zealand. Powell and Caseau (2004) expressed that

"students from Latin and Southeast Asian cultures tend to believe that power should be held by a select few" (p. 48). Sudweeks (1993) argued that this dimension has consequences in the classroom in regard to student participation. For example, students from a high power distance culture will wait for the teacher to "initiate communication" and will speak "when called upon" (p. 5) in the classroom.

In addition to power distance as a dimension of culture, Hofstede (2001) described masculinity and femininity as "related to the division of emotional roles between men and women" (p. 29). Cultures high in masculinity (such as Mexico, Japan, and the U.S.) have clear social roles for men (tough, competitive, and assertive) and women (tender, nurturing, and modest). Some cultures allow a "blurring" of social roles and are considered low in masculinity. Writing about Korean students' participation in the classroom, Lustig and Koester (2010) pointed out that they "are often unwilling to talk with their teachers" (p. 293). This has major implications in terms of classroom participation and the effect cold calling may have on these students.

Uncertainty avoidance is a third dimension of culture and concerns the "level of stress in a society in the face of an unknown future" (Hofstede, 2001, p. 29). Cultures that are high in uncertainty avoidance (South American and Asian cultures) understand that there are appropriate communication behaviors and violating these accepted behaviors can result in a negative outcome. In the classroom, students from high uncertainty avoidance cultures are "security-

seeking, aggressive, emotional, and intolerant" while student from low uncertainty avoidance cultures tend to be "unemotional, less aggressive, relaxed, and relatively tolerant" (Sudweeks, 1993, p. 4). Thus, students from a low uncertainty avoidance culture (such as the U.S.) may be more open-minded when it comes to unstructured learning conditions and deem discussion as an acceptable means of education.

The discussion of individualistic and collectivistic cultures has been the focus of an extensive amount of intercultural communication studies. Hofstede (2001) described individualistic societies as those "in which the ties between individuals are loose [and] everyone is to look after him/herself" (p. 23) and are often affiliated with countries such as the U.S. and Germany. In sharp contrast are collectivistic societies, such as Japan and China where "people...are integrated into strong, cohesive in-groups" (p. 23). This dimension of culture has also been explored in the classroom context. For example, Sudweeks (1993) indicated that students from individualistic cultures "express their own opinions...[and] will speak up in large groups" (p. 2). In contrast, students from collectivistic cultures will only participate in class when called upon directly and prefer to participate in small groups instead of large groups.

Culture in the Classroom. Clearly, these dimensions of culture impact an individual's communication behaviors. Scholars in the field of intercultural communication have conducted numerous cross-cultural studies in order to compare and contrast cultures' communication tendencies. Many of the early

studies in this field focused on comparing and contrasting cultures in order to prepare individuals for travel abroad (Leeds-Hurwitz, 1990). Over time, intercultural communication has branched out and examined culture's impact in other contexts as well. One such context that has garnered attention is the classroom, which is likely due to the fact that classrooms have become more and more culturally diversified in recent decades.

Fassinger (2000) explained that student participation is affected not only by the structure of a classroom and the instructor's traits, but also, and perhaps most significantly, a student's traits (which includes culture). Thus, culture and the role it plays in the classroom have prompted cross-cultural studies that have explored the participation patterns of American students and juxtaposed them with Swedish, Chinese, and Australian students (Barraclough, Christophel, & McCroskey, 1988; Hsu, 2004; Mansson & Myers, 2009). As a case in point, Lu and Hsu (2008) considered the "Eurocentric communication style [which] value[s] explicit and direct verbal expressions" and compared this against the Chinese's "Asiacentric style [which] emphasizes silence and group harmony" (p. 85). Their article supports existing literature that indicated the four dimensions of culture (such as Hofstede's individualism-collectivism dimension) could considerably impact a culture's general communication style.

In the majority of these studies, the U.S. is identified as a low-context, individualistic society and studied along side dissimilar countries. Mansson and Myers (2009) mentioned that "there are numerous subcultures within the U.S."

(p. 14). Nonetheless, the literature is scant in regard to the classroom participation behaviors of subcultures (also known as co-cultures in intercultural communication, see Orbe, 1998) such as ethnic groups within the U.S. (see Allen, Omara, Long, & Judd, 1986). This raises the question: If the American classroom is widely acknowledged as a low-context, individualistic location, how does a Hispanic student (who is considered to be from a high-context and collectivistic culture) communicate in the classroom?

Culture and Communication Apprehension. In addition to defining CA, measuring CA, and suggestions to reduce CA in the classroom, the literature revealed the dynamic between CA and culture as well. Barraclough, Christophel, and McCroskey's (1988) study of US and Australian student's CA levels, for instance, helped establish a comprehensive profile of similar cultures. Their study highlighted that "the generalizability to other cultures of the research" (Barraclough et al., 1988, p. 190) may be applicable between similar cultures.

In contrast, it is no surprise that there are cultural differences between Chinese and American students. To clarify how these cultures are distinguished, Hsu (2004) examined the specific contributing factors that lead to varied levels of CA between these two groups. Using McCroskey's PRCA-24, 618 undergraduate students were surveyed. Hsu (2004) identified several characteristics that explained the differences in CA levels: (a) self-construal (Chinese value interdependence and therefore may experience more apprehension in communicating with others), (b) neuroticism and extroversion (Chinese have self-

perceptions of being "emotionally unstable and socially inhibited" [Hsu, 2004, p. 384] and therefore experience higher levels of CA than their American counterparts), and (c) fear of negative evaluation (which can be explained by the Chinese value of modesty).

Noting such differences then, the use of cold calling joined with a student's culture can affect that student's participation in classroom discussions. Scholars have extensively studied CA using the PRCA-24 and, as mentioned, have explored various methods to help reduce CA. However, many scholars only observed American students as one homogenous group and compared the results with a similar (Australian) or dissimilar (Asian) culture. Thus, to my knowledge limited literature exists that reports on sub or co-cultures, such as Asian Americans or Hispanics and the influence cold calling may have on them. Moreover, it remains imperative to examine the relationship between cold calling as a strategy to increase student participation (and learning), culture, and communication apprehensive students.

Hispanic Co-culture. According to the US Census Bureau (2008), there are 45.5 million Hispanics living in the U.S. (making up 15.1% of the population), which was a 28.9% growth rate from 2000. The Hispanic Association of Colleges and Universities reported that 1.9 million Hispanic students were enrolled in college in 2006. Additionally, within the 4-year Western university surveyed for this research, the student population was made up of 36.4% Hispanics at the time this research was conducted ("Facts and Stats," 2009, ¶ 19).

While Hispanics represent the fastest growing minority group in the U.S. and the largest ethnic group at the university used to conduct research for this thesis, little is known about if or how their culture or ethnicity has an effect on their communication behaviors, particularly in the educational context. Previous studies have collapsed various American ethnicities into a single category. Yet, it is salient to consider the implications that ethnicity may have on a student's communication apprehension and cold calling as a form of eliciting participation in the classroom context.

CHAPTER TWO

THEORETICAL APPROACH AND RESEARCH QUESTIONS

Because student-teacher relationships are established through the use of communication, it is only natural then to examine a prominent communication theory that explains the association between an instructor's communication and a student's propensity to participate in the classroom. This thesis is based on uncertainty reduction theory (Berger & Calabrese, 1975). It was advantageous to apply this theory in the context of instructional communication research because of the uncertainty that exists when teachers and students encounter one another at the onset of the academic term, the uncertainty a student might feel towards being cold called, and the uncertainty students identified as communication apprehensive might have in a public speaking course. Further, this was an ideal theory to employ because as evidenced in the literature on cold calling, some scholars suggest being explicit about their pedagogical approach and participation expectations in an attempt to reduce uncertainty and create a warm class climate where students may be more receptive toward cold calls (Dallimore et al., 2004).

Uncertainty Reduction Theory

Berger and Calabrese (1975) developed uncertainty reduction theory (URT) in order to explain some of the interpersonal interactions that occur when

a person first meets a stranger and is used to hypothesize, test, explain, and predict an individual's behaviors in an interpersonal communication context. Berger and Calabrese stated, "When strangers meet, their primary concern is one of uncertainty reduction" (p. 100). That is, the uncertainty of not knowing someone may be the catalyst for initial communication. Generally, people use passive (observation of the stranger), active (asking others about the stranger), or interactive (asking questions of the stranger) strategies. Considering that interpersonal relationships exist (between students and the instructor) in the context of the classroom, scholars who have employed URT have provided the communication discipline with several pieces of literature that have helped scholars examine student-teacher communication behaviors used to reduce uncertainty. It is necessary to consider the initial conceptualization, development, and application of URT in order to understand its application in this study.

Conceptualization of Uncertainty Reduction Theory

Uncertainty reduction theory is a communication theory initially conceived in 1975. In their seminal article, Berger and Calabrese (1975) established the main features of URT, considered the developmental stages that strangers encounter, outlined axioms and theorems, and contemplated future applications of their theory. There are three developmental stages that Berger and Calabrese (1975) suggested to preface the context of URT. The first stage is known as the entry stage. During this stage, strangers follow appropriate, traditional communication behaviors such as saying "hello," or using polite terms such as

"please" and "thank you." In the early parts of this stage, disclosure is based on low-level information exchanges (name, age, hometown). Towards the later parts of this stage, individuals begin to ask for more disclosure from the stranger and have gauged whether or not they will continue to develop their relationship. The second stage is known as the personal phase, in which partners begin to explore more intimate aspects about one another (e.g., perspectives and beliefs). This stage can occur during an initial interaction after a fair amount of time has elapsed, but is more likely to transpire after several communication interactions with a particular partner. The third stage that Berger and Calabrese (1975) proposed is the exit phase. At this stage, individuals determine the likelihood of future communication and signal to their partner the desire (or lack thereof) to sustain interaction and develop their relationship.

In a call to action at the end of their article, Berger and Calabrese (1975) acknowledged the limitations of their new theory (that its main applicability is to interactions between strangers only), recognized the body of previous research that the new theory stood upon, and urged scholars to apply the theory in future interpersonal communication research. Scholars answered the authors' call and began to test the theory's axioms and theorems, as well as evaluate the verifiability of URT.

Development of Uncertainty Reduction Theory

In addition to Berger and Calabrese (1975), other researchers (see, e.g., Altman & Taylor, 1973; Fisher, 1978; Thibaut & Kelley, 1959) have theorized the

initiating, intensifying, and disbanding stages that take place between individuals throughout the span of an interpersonal relationship. However, Berger and Calabrese (1975) opted to "focus [their] attention on the initial phases of interaction between strangers" (p. 99). Therefore, the theorems originally proposed by Berger and Calabrese were based on the assumption that the individuals who took part in a communication event had no previous knowledge of one another.

Berger and his colleagues expanded URT to include three communication strategies (seeking information, planning, and hedging) that explicate the various methods people use in order to reduce uncertainty (see, e.g., Berger & Bradac, 1982; Kellerman & Berger, 1984). To begin with the first strategy, individuals seek information from their communication partner in order to minimize uncertainty. One of the ways that this can be accomplished is through passive tactics. When individuals utilize such tactics, they search for information without verbal communication. That is, information is obtained through alternate means such as observation from a distance. Another method of information seeking comes from the use of active tactics. Again, an individual avoids direct interaction with the other person, but obtains information by actively seeking information from a third party (e.g., a friend). Regardless of being deemed active or passive, the last tactic that individuals use as a means of information-seeking is known as an interactive tactic. They require that an individual verbally communicates with

another person and gains information through question asking and "reciprocated disclosures" (Knobloch, 2008, p. 137).

The second strategy individuals use to reduce uncertainty is to plan prior to and throughout the course of the communication interaction, which allows an individual to realize their communication goals. Knobloch (2008) pointed out that individuals tend to be flexible with their communication plans if their goals are not achieved.

The third strategy that is utilized by communicators is known as hedging. Hedges come in the form of humorous messages, ambiguous messages, disclaimers, retroactive discounting, and controlling the floor. Each of these three strategies represents communicative courses of action that individuals may employ in order to reduce their uncertainty about a partner whom they have never encountered.

Applications of Uncertainty Reduction Theory

Scholars have frequently employed and referred to URT to rationalize, explain, and defend their research findings. Two trends emerged when examining the application of URT. First, the theory has been used in its originally conceptualized form to study initial interactions. For example, Berger and Douglas (1981) explored the "social interaction" and "formality-informality" (p. 183) of 50 undergraduate students. While the study generally supported previous research, URT was advanced by the authors who concluded when strangers are in an informal setting "passive" behaviors became "disinhibited" (Berger &

Douglas, 1981, p. 193). The theory is heuristic as Berger and Douglas (1981) began to question whether communication was merely a process, or also a tool that humans use to gain knowledge about strangers in an interpersonal interaction.

The second trend that emerged when examining the uses of URT is the study of uncertainty in established relationships. Berger (1986) observed that "relationships that are generally rewarding grow, whereas those that are more costly than rewarding do not" grow (p. 34). Over ten years subsequent to the initial conceptualization of URT, the theory was not limited to the explanation of communication behaviors of strangers, but was evident in established relationships as well (Gudykunst, Yang, & Nishida, 1985; Parks & Adelman, 1983).

Generally, URT research has focused on interpersonal relationships (see, e.g., Cragan & Shields, 1999; Douglas, 1990; Gudykunst, 1983; Neuliep & Grohskopf, 2000; Oh, Frank, & Stone, 2007; Pratt, Wiseman, Cody, & Wendt, 1999; Waldeck, Seibold, & Flanagin, 2004). However, because the student-teacher relationship is interpersonal in nature and follows the developmental stages of communication, URT was utilized in this investigation of student participation in the classroom. It was an appropriate theory to employ not only because of the teacher-student interpersonal dynamic, but many times teachers and students are strangers when beginning a college term, thus uncertainty exists for students not knowing the teacher's style, requirements, expectations,

and communication. Further, for instructors, uncertainty exists not knowing the students' classroom participation behaviors, feelings about cold calling and other participatory approaches, and levels of CA.

Douglas (1990) used URT as a foundation to study information-seeking (an aforementioned student motive to participate). Even though his research was designed to apply to interpersonal relationships in the broad sense, Douglas' findings are also relevant in the instructional context. Because student-instructor relationships can be considered interpersonal relationships, the study can be extended to include the reduction of uncertainty, "engage[ment] in information-seeking" (p. 78), and participation behaviors of students. While Douglas explored the decline in uncertainty when strangers were exposed to one another, similar "first impressions" are made in the classroom when students and instructors meet, oftentimes in the first class session. Students often utilize a passive communication strategy when observing an instructor's behaviors, dress, gender, course syllabus, and other informative cues. Thus, the impression that an instructor creates can potentially affect a student's propensity to communicate. Further, an instructor who provides a clear explanation of his or her expectations is progressing through the first developmental stage described in URT in order to create a first impression, which may help reduce uncertainty in the classroom.

In addition, Kellerman and Berger (1984) proposed the "power-up-glide" model which posits that as a "conversation begins to wane, another question must be asked to power it up" (p. 95). In this model employing URT as a

framework, the use of questions posed via cold calling during a class discussion could be considered as a necessary means in order to keep the class dialogue flowing. This model further implies that in uncertain times, people (in this case, students and teachers) will use interactive communication strategies in order to sustain the verbal exchanges that occur in the cold calling classroom.

Goodboy and Myers (2007) used URT as a framework to explore the correlation between student confidence in an instructor and the student's perception of communication gratification. Their research findings illustrated that the interpersonal relationship between a student and instructor is positively correlated with a student's perception of communication satisfaction. Additionally, Goodboy and Myers' research supported Souza et al.'s (2007) results that confirmation and a sense of belonging are vital components in the creation of a warm classroom climate. As a response to a warm classroom climate and, therefore, a reduction in uncertainty, students may have utilized an interactive communication strategy and may be more likely and willing to participate in the class dialogue.

Witt and Behnke (2006) utilized URT to study public speaking anxiety. Results indicated that student uncertainty reduction behaviors, such as "objective self-awareness" (p. 174), existed in the context of a public speaking course. Extemporaneous and impromptu speech assignments triggered the most anxiety amongst the students in the class. Witt and Behnke (2006) posited that certain speech assignments contain "symptomatic indicators of uncertainty (feelings of

nervousness and anxiety) [and] may generate perceptions of even greater unfamiliarity or discomfort thus increasing...uncertainty beyond that which originally existed in the communication context itself" (p. 175). As a consequence, the scholars urged instructors to be mindful of the sequencing arrangement of speech assignments, so as to reduce apprehension and anxiety as the term progresses.

Despite the widespread use of URT in examining interpersonal communication and considering the interpersonal nature of teacher-student communication, the theory has been used sparsely in educational contexts. Although limited in use, URT has aided scholars who studied concepts such as student communication satisfaction and liking an instructor (Goodboy & Myers, 2007) and speech anxiety (Witt & Behnke, 2006). It was employed in this thesis as the theoretical foundation to conduct the research.

Research Questions

As discussed in Chapter 1, the benefits of cold calling have been explored in the literature (Dallimore et al., 2005, 2006); however, sparse and tangential consideration has been given its effects on students' CA. Although Cooper and Simonds (2007) recommended encouraging quiet students to participate, McCroskey and McCroskey (2002) considered that cold calling could negatively stigmatize students who are apprehensive regarding communication (also see Brown & Pruis, 1958; Lu & Hsu, 2008; Mansson & Myers, 2009; McCroskey &

Richmond, 1993; Neer & Faye, 1989; Zorn, 1991). Hence, it is evident that a conflict among scholars' positions toward cold calling and communication apprehensive students exists.

McCroskey and McCroskey (2002) provided pedagogical approaches to ease communication apprehensive students (e.g., "avoid randomly calling on students to respond" [p. 31]) or "forcing involuntary participation" (McCroskey, 1977, p. 33). Even though they did not explicitly use the term cold calling, other scholars (Dallimore et al., 2005; Hansen, 1987; Souza et al., 2007) defined cold calling as randomly calling on students. McCroskey and McCroskey's (2002) "random calling" and McCroskey's (1977) forced participation meets the description set forth in this body of research as "cold calling." Hence, McCroskey and McCroskey (2002) dismissed cold calling as a viable teaching strategy to aid communication apprehensive students. Further, they maintained that calling on students randomly can "reduce learning by causing them to worry about being forced to communicate rather than pay attention" (p. 31). This contradicts much of the literature on cold calling, particularly the benefits proffered by students.

Irrespective of their alternative conclusions on cold calling and students with CA, McCroskey and McCroskey's (2002) results sustained many of Dallimore's findings on communication apprehensive students. For example, they mentioned that communication apprehensive students require an environment with reduced ambiguity and detail that it is critical that instructors are "very clear about the grading system" (p. 33). Likewise, one of Dallimore's et al.'s (2004)

foundations as a function of increasing student preparedness was stating course expectations early in the term both orally (making announcements) and in written form (in the syllabus).

Another proposal to curb CA in students is to "make communication a rewarding experience...by avoiding indicating that any answer is completely wrong" (McCroskey & McCroskey, 2002, p. 31). Similarly, Dallimore et al. (2004, 2005) explained that students and instructors agree that constructive criticism is a vital part of increasing quality participation. Teachers who were surveyed revealed that they utilized incorrect student responses as a "teaching moment" (Dallimore et al., 2005, p. 56), and "stressed how everyone benefits from wrong and right answers" (Dallimore et al., 2004, p. 110).

Lastly, Dallimore et al. (2006) indicated that cold calling can be beneficial to students by arguing, "when students are prepared, they may be more comfortable participating, and the more they participate, the more comfortable they may become with it" (p. 371). Hence, according to Dallimore et al., practice and experience may prompt a reduction in communication apprehension whereas McCroskey and McCroskey (2002) advocated communication avoidance for communication apprehensive students.

The prevailing inconsistencies in the literature reveal that research is warranted in order to better understand the correlation between cold calling and communication apprehension. Certain cold calls (i.e. "icy" cold calls) can be used in a punitive manner to highlight off-task, unprepared, or unwilling-to-

communicate students. Although the literature indicates that there are temperature differences in cold calling, a further examination of the relationship between "warm" cold calls and communication may help researchers understand whether cold calling is a beneficial method of reducing CA in students. Thus, based on the literature, I was particularly interested in the effect that an instructor's use of cold calling can have on communication apprehensive students. The following research question were posed based on URT:

RQ1: Does an instructor's use of cold calling decrease student communication apprehension?

In addition to understanding how cold calling may affect students with CA, it is also important to understand additional factors such as culture/ethnicity that may also affect communication apprehension. With the knowledge that Hispanics are currently the most rapidly growing U.S. population and Hispanic students are entering colleges and universities at an unprecedented rate (higher enrollment than White students), it is important to study this group. Specifically, my attention turned to the following research question in order to better understand the potential role that ethnicity plays in regards to classroom participation, cold calling, and communication apprehension. Therefore:

RQ2: Do Hispanic students react differently than their Caucasian/White counterparts to cold calling in terms of communication apprehension?

CHAPTER THREE

METHODOLOGY

Participants

Participants (N = 189, $n_{control}$ = 78, n_{exp} = 111) for this research were recruited from sections of an introductory public speaking class at a mid-sized Hispanic-serving university in the Western United States. Hispanic-serving institutions are defined by the Hispanic Association of Colleges and Universities (2009) as "degree-granting institutions with Full-Time Equivalent undergraduate enrollments that are at least 25% Hispanic" (¶ 4). Two sections of the public speaking course were surveyed in the fall 2009 quarter, two sections were surveyed in the winter 2010 quarter, and eight sections were surveyed in the spring 2010 quarter. Six sections were part of the control group (cold calling was not used by the instructor) and six sections were a part of the experimental group (cold calling was utilized by the instructor).

The number of completed pretests totaled 238 and 189 participants completed both the pre- and posttests. Therefore, the retention rate of participants for this study was 79.41%. One of the control group sections had a high drop out rate because the instructor did not meet with his students during the final week of the quarter and as a result, could not survey his class in-person (see Chapter 5 limitations). The sample used for analysis was composed of students who completed both the pre- and posttests and were predominantly

freshmen (n = 153; 81%) while the remaining students were sophomores (n = 18; 9.5%), juniors (n = 9; 4.8%), and seniors (n = 9; 4.8%). Males represented a smaller proportion of the sample (n = 68; 36%) than women (n = 121; 64%), which was representative of the larger university population of 35% male, 65% female ("Facts and Stats," 2009, ¶ 11). The sample was separated into two groups of which 58.7% were in the experimental group and 41.3% were in the control group.

More than half of the participants (n = 98; 51.9%) indicated that their ethnicity was Hispanic, followed by Caucasian/White (n = 66; 34.9%), Asian/Pacific Islander (n = 28; 14.8%), Black/African-American (n = 20; 10.6%), Native American (n = 3; 1.6%), and other ethnicity (n = 5; 2.6%). The ethnicity percentage totaled 116.4% because students were instructed to check all ethnicities that applied. The ethnic profile for the university used in this study was as follows: Hispanic, 36.4%, White/Non-Hispanic, 31.1%, African American 11.8%, Asian/Pacific Islander, 7.9%, International, 3.5%, Native American, 0.7%, and other ethnicity, 8.7% ("Facts and Stats," 2009, ¶ 19).

Because this course is a general education requirement, participants reported a variety of majors including nursing (n = 27; 14.3%), undeclared (n = 18; 9.5%), biology (n = 17; 8.9%); business (n = 16; 8.5%), psychology (n = 15; 7.9%), criminal justice (n = 13; 6.8%), liberal studies (n = 11; 5.8%), kinesiology (n = 8; 4.2%), chemistry (n = 7; 3.7%), computer science (n = 7; 3.7%), communication studies (n = 5; 2.6%), accounting (n = 4; 2.1%), double/multiple

majors (n = 4, 2.1%), English (n = 4; 2.1%), mathematics (n = 4; 2.1%), sociology (n = 4; 2.1%), political science (n = 3; 1.6%), social work (n = 3; 1.6%), Spanish (n = 3; 1.6%), history (n = 2; 1.1%), nutrition (n = 2; 1.1%), and other majors with just one student each (.5%) including advertising, anthropology, Arabic, economics, finance, geology, graphic design, health science, pharmaceutical studies, philosophy, pre-physical therapy, and studio art.

Student participation for this research was voluntary, students were allowed to withdraw from it at any time, and no extra credit was offered. Because the public speaking course is required of all students attending this university, regardless of their major, the sample generally represents the larger student population at this university.

Study Design

I employed a pretest/posttest experimental design. For the purposes of this investigation, my class sections (n = 6) were chosen because of convenience and my prior experience utilizing cold calling, making it the experimental group. I utilized cold calling while teaching previous sections of the introductory public speaking course. In addition, I extensively studied cold calling and complied with Souza et al.'s (2007) suggestions for successful implementation (explanation of the pedagogical approach, an emphasis on teacher expectations, the instructors' commitment to creating and maintaining a supportive and comfortable classroom climate, and the instructor's use of "warm" cold calls instead of "icy" cold calls).

Other instructors taught six of the sections surveyed for this study to serve as the control group. These instructors' courses were selected because they were also sections of the same introductory public speaking course and because the instructors did not utilize cold calling in their classrooms, nor did they grade on participation. I chose to survey sections that did not grade on participation because I wanted all sections to remain consistent with the experimental group, I did not have a systematic method to observe student contributions across all sections, and because the subjectivity of grading student participation may have varied from teacher to teacher.

Operationalization of Variables

This study measured the effects of cold calling and culture on communication apprehension, which are described below:

Cold Calls

Because it is likely that "icy" cold calls, which can be viewed as punitive, intimidating, or threatening, (Dallimore et al., 2005) would most likely increase student communication apprehension, for the purposes of this study, I sought to us only "warm" cold calls, which attempted to encourage and promote student participation. However, because I did not test student perceptions of the "warmth" or "iciness" of the questions, I refer to this questioning technique as cold calling. I attempted to use this type of cold call and allowed ample time for students to prepare and answer my questions, used questions that were in accordance with

Bloom's Taxonomy, and had a method of calling on students randomly. The "randomness" of the cold calls was achieved through the use of a stack of index cards with each student's name on each card. I shuffled the deck of cards at the beginning of each class. Once a student's name had been called, that student's card was placed in a pile on the front desk. This ensured that the probability for each student to be called was equal for every class session (with the exception of class sessions that were reserved for student speeches). If every student was cold called in one class meeting, I re-shuffled the deck of index cards and repeated the process of calling on students randomly.

Culture

Because students were to mark all ethnicities that applied to them the six ethnic categories (Hispanic, Caucasian/White, Native American, Black/African-American, Asian/Pacific Islander, and Other) were collapsed into three subcategories of ethnicity for the purposes of this study. The three categories utilized were Hispanic of Any Origin (n = 98; 51.9%), Caucasian/White (Non-Hispanic) (n = 47; 24.9%), and Other (Non-Hispanic) ethnicity (n = 44; 23.3%).

It is important to note that there is a relationship between one's ethnicity and their culture. While students indicated their ethnicity on the pretest survey, I related this to and expressed this term as "culture" in this thesis.

Communication Apprehension

The level of communication apprehension was defined as a student's level of fear or anxiety regarding communication, which may lead to students not

volunteering to participate in classroom discussion. I measured the dependent variable (level of communication apprehension) with the PRCA-24 (McCroskey, 1982, see Table 1). In the first week of the quarter, participants from all 12 sections (6 experimental, 6 control) answered 24 5-point Likert-scale questions (1 = Strongly Agree, 5 = Strongly Disagree) and their final score ranged from 24 to 120 (McCroskey, 1982, see Table 1). Additionally, a separate score was calculated in the class meetings subscale. A minor change was made to six of the original statements found in the PRCA-24. Instead of referring to "meetings" (statements 7-12), I modified the statement to include the phrase, "class meetings" in order to clarify a specific classroom context.

I chose this instrument to measure CA because Frymier and Weser (2001) claimed that the PRCA-24 "has demonstrated to have high reliability and validity" (p. 319). McCroskey, Beatty, Kearney, and Plax (1985) reported that the alpha reliability for the PRCA-24 typically "ranges from .93-.95" (p. 169). Furthermore, the self-report has been used in a large number of studies (see, e.g., Barraclough, Christophel, & McCroskey, 1988; Mansson & Myers, 2009; Sallinen-Kuparinen, McCroskey, & Richmond, 1991) and should quantify whether or not cold calling has an effect on a students' reported level of communication apprehension.

Procedures

Because this study required use of human subjects, Institutional Review Board (IRB) approval was required. An application that outlined the purpose of the study, brief project explanation, description of participants, and proposed letter of consent was submitted to the university's Office of Academic Research and written IRB approval was obtained (see Appendix A). A protocol change was made to the survey requesting the original number of class sections surveyed be increased to account for a control group; an addendum was submitted to IRB for approval. These changes were accepted (see Appendix B). An additional protocol change was made to the study to allow for 27 of the posttest surveys to be administered electronically (via e-mail) in an attempt to capture data from the class section that did not meet the last week of the quarter. The office of Academic Research also accepted these changes in protocol (see Appendix C).

The IRB-approved letter of consent was distributed to the potential participants in the first week of class. For all twelve sections, the instructor read the letter of consent aloud to the class, and students willing to participate signed the consent form. Once the participant had given written consent and the consent form had been returned to the instructor, the instructor then immediately administered the pretest survey during the same class session (see Appendix D).

There were two parts to the pretest survey. Part I of the pretest survey included 24 questions (PRCA-24). In Part II of the pretest survey, students were asked demographic information (i.e., their major, class standing, ethnicity, and

sex). The demographic data was used for statistical descriptive purposes in order to create a profile of the participant group and to construct an ethnic description of participants as indicated by their self-reports as well.

On the last regular class meeting of the quarter, the participants were asked to fill out the posttest survey (see Appendix E). The posttest survey contained just the PRCA-24 instrument. The protocol for the posttest survey was the same for every section except for one section of the control group sections (in which case, the posttest survey was administered via email).

The instructions on the survey indicated that students should "work quickly; record your first impression." Therefore, a minimal amount of class time was spent administering the survey twice during the quarter. The pretest survey took approximately 10-15 minutes and the posttest survey took approximately 5-10 minutes for students to complete.

In order to maintain the students' anonymity, they were not asked to write their names on the survey. I coded the students' names and assigned each participant a three-digit personal identification number (PIN) prior to the first week of class (based on the official class roster). The PIN was pre-printed on each survey for the pretest. Souza et al. (2007) utilized this method with success and it allowed the researchers to "enable pre-and posttest questionnaires to be paired for analysis purposes" (p. 13). This system helped me track individual changes in CA from the beginning of the term to the end of the term. The survey was administered in "traditional paper" format (except in the case of one section of the

control group in which the survey was administered electronically) and the participants were asked to record their answers using pen or pencil. While the survey was self-administered, it was completed in the presence of the course instructor.

I employed the discussion method as the primary pedagogical approach (even though at times other strategies such as small groups and lecture were still utilized). Students were made aware of my expectations of student participation both orally (on the first day of class) and in written form (stated on the syllabus). I did not define "cold calls" to the students because of previously mentioned trepidation surrounding the term "cold calling." Further, mentioning "cold calling" may have inadvertently skewed, biased, or altered the student responses on their survey. Rather, I explained that students should be prepared and anticipate to "be called on when their hands [were] not raised" (Dallimore et al., 2004, p. 106). In the six control group sections, the instructors also used various pedagogical approaches, but cold calling was not utilized as an instructional strategy to gain student participation.

Data Analysis

Following the collection of both the pre- and posttest surveys, I used a codebook to code the data for entry into the Statistical Package for the Social Sciences (SPSS), Version 17 computer program (copyright, 2009, see Appendix

F). After data was collected, coded, and entered into SPSS, I used SPSS's statistical tools to analyze the data.

In order to address the RQ1, I reverse coded 12 of the statements from the PRCA-24 in SPSS (statements 1, 3, 5, 7, 10, 11, 13, 15, 18, 20, 22, and 24). Next, I totaled the scores for the entire PRCA-24 pretest and posttest responses as well as totaled the 6 scores for the Classroom Meeting subscale. Any missing data points were replaced with the mean score from individual participant's other PRCA-24 responses (case-wise). I then ran a paired samples *t*-test with equal variances not assumed to compare the pre- and posttest PRCA scores and another paired samples *t*-test to compare the pre- and posttests Classroom Meeting scores. The test with equal variances not assumed was used because of unequal group sizes. I then ran two independent *t*-tests with equal variances not assumed that compared individual pre- and posttest difference scores (pretest score minus posttest score) for the PRCA-24 and Classroom Meeting between the experimental and control groups.

In order to address RQ2, whether Hispanic students react differently than their Caucasian/White counterparts to cold calling in terms of communication apprehension, I created a variable that divided participants into one of three ethnic categories: (a) Hispanic of any origin, (b) Caucasian/White non-Hispanic, and (c) Other non-Hispanic ethnicity. I ran two one-way between subjects ANOVAs to compare the pre- and posttest difference scores for the PRCA-24

and Classroom Meeting between the ethnic groups and the two conditions (experimental and control groups).

CHAPTER FOUR

RESULTS

To begin, I ran a paired samples *t*-test to assess participants' change in overall communication apprehension ($M_{PRCA\text{-}Pre}$ = 66.52; $SD_{PRCA\text{-}Pre}$ = 17.07; $M_{PRCA\text{-}Post}$ = 57.70; $SD_{PRCA\text{-}Post}$ = 17.37) and classroom meeting communication apprehension ($M_{Meeting\text{-}Pre}$ = 16.18; $SD_{Meeting\text{-}Pre}$ = 5.67; $M_{Meeting\text{-}Post}$ = 13.81; $SD_{Meeting\text{-}Post}$ = 5.17). Both decreased significantly [$t_{PRCA}(188) = 9.20$, $p = .000$; $t_{Meeting}(188) = 7.77$, $p = .000$].

Results for Research Question 1

A series of independent *t*-tests were used to test RQ 1. For RQ1, an independent *t*-test with equal variances not assumed was used to analyze the effects of cold calling on the experimental and control groups, revealing that there was no significant reduction in communication apprehension between the conditions, $t(155.12) = .203$, $p = .840$. Participants in the experimental condition and the control condition had similar decreases in communication apprehension (n_{exp} = 111; M_{exp} = 8.99; SD_{exp} = 12.65; $n_{control}$ = 78; $M_{control}$ = 8.59; $SD_{control}$ = 13.99).

Next, as a part of the examination of the effects of cold calling on student participation during class meetings, an independent *t*-test with equal variances not assumed revealed that the difference between the pretest classroom meeting

subscale and the posttest classroom meeting subscale in both the experimental (n = 111; M = 2.42; SD=3.93) and control groups (n= 78; M = 2.29; SD = 4.56) did not differ significantly [$t(149.98) = .205$, $p = .838$].

Results for Research Question 2

For RQ2, a one-way between subjects ANOVA was conducted to examine whether Hispanic students (Hispanic of any origin/experimental group: n = 56; M = 6.86; SD = 12.22; Hispanic of any origin/control group: n = 42; M = 7.09; SD = 15.68) reacted differently than their Caucasian/White counterparts (Caucasian/White non-Hispanic/experimental group: n = 29; M = 12.46; SD = 12.28; Caucasian/White non-Hispanic/control group: n = 18; M = 7.69; SD = 11.69) to cold calling in terms of overall communication apprehension. The non-Hispanic experimental group (n = 26; M = 9.72; SD = 13.51) and non-Hispanic control group (n = 18; M = 12.99; SD = 11.39) was included in the ANOVA. The effect of culture and condition (experimental and control groups) on communication apprehension was not statistically significant [$F(5, 188) = 1.253$, $p = .286$].

Furthermore, as a component of the examination of RQ2, a one-way between subjects ANOVA was administered to test whether or not an instructor's use of cold calling caused Hispanic students (Hispanic of any origin/experimental group: n = 56; M = 2.35; SD = 4.10; Hispanic of any origin/control group: n = 42; M = 1.95; SD = 4.97) to react differently in regard to participating in class

meetings than their Caucasian/White counterparts (Caucasian/White non-Hispanic/experimental group: n = 29; M = 2.37; SD = 3.37; Caucasian/White non-Hispanic/control group: n = 18; M = 1.00; SD = 3.91). The non-Hispanic experimental group (n = 26; M = 2.63; SD = 4.28 and non-Hispanic control group (n = 18; M = 4.39; SD = 3.53) was included in the ANOVA. There was no significant effect of culture and condition (experimental and control groups) on the Class Meetings subscale of communication apprehension [$F(5, 188) = 1.339$, $p = .250$].

CHAPTER FIVE

DISCUSSION

This thesis had two goals. Initially, it began with identifying student CA levels early on in the term to determine whether cold calling affected the students' level of apprehension. Second, this thesis sought to understand the effects that culture and cold calling may have on CA. After summarizing the conclusions, this chapter includes a discussion of the findings, presents limitations, and offers suggestions for future research.

Conclusions

One of the central variables in this thesis was communication apprehension. As presented in Chapter 4, the pretest PRCA-24 score indicated a moderate level of CA, and was slightly higher than the national mean ("Norms for the PRCA-24", 1982). The PRCA-24 posttest score decreased significantly compared to the pretest score. Furthermore, the class meeting subscale score significantly decreased compared to the pretest. Thus, my findings indicate that regardless of whether or not an instructor used cold calling as a teaching strategy, there was a meaningful reduction in the overall communication apprehension and classroom meeting apprehension mean scores.

While this finding is salient, the decrease in CA was a considerable oversight in the conception of this research for several reasons: (a) it was

identified as one of the objectives of the course (on all 7 of the instructor's syllabi), (b) the course textbook, which was used by all instructors in this study, stated that "gain[ing] speaking experience" (Lucas, 2009, p. 18) is an important component to cope with nervousness and reduce CA, and finally, and (c) previous researchers have noted that one of the advantages of passing an introductory public speaking course is that students who were identified as having a moderate level of CA "experience[d] a reduction of CA...as a result of completing a basic communication course" (Morreale, Hugenberg, & Worley, 2006, p. 416). This finding reinforces the notion that the introductory public speaking course can play a significant role in reducing student communication apprehension.

While Dallimore et al. (2004, 2005, 2006) and Souza et al. (2007) reported that cold calling is an advantageous teaching strategy to employ in the classroom, McCroskey and McCroskey (2002) argued that calling on students randomly would not reduce communication apprehension. Moreover, Rocca (2010) warned "cold-calling on students is not recommended due to...the possibility of increasing classroom apprehension" (p. 205). In this case, classroom apprehension is closely associated with CA as Neer (1987) defined the former as the "avoidance of participation prompted by...[the] expectation of negative outcomes associated with participation" (p. 157). Additionally, this study measured student apprehension in the specific context of classroom meetings (see statements 7-12 on the PRCA-24, Appendix D). The results reported that an

instructor's use of cold calling did not reduce communication apprehension. Nonetheless, there was not an increase in CA or classroom meeting apprehension as McCroskey and McCroskey (2002) and Rocca (2010) predicted. Thus, in spite of the fact that contradictions still exist in the literature regarding cold calling, these findings oppose McCroskey and McCroskey (2002) in that cold calling can still be considered a viable teaching strategy since it did not increase CA.

The results in Chapter 4 indicated that in terms of the relationship between CA and culture, Caucasian/White students' overall CA decreased more than Hispanic students when cold called, but the difference was not statistically significant. Thus, based on the results, culture and the presence or absence of cold calling did not appear to have relevant effects on the decrease in CA.

Discussion

Irrespective of statistically insignificant results, this research garners a number of discussion points. For instance, perception of CA, grading participation, teaching philosophy, intercultural implications, and pedagogical implications are each considered as evidenced in the findings. Hence, although the outcomes were not what I had initially anticipated, a discussion of the findings is warranted.

Perception of Communication Apprehension

A potential problem with studying CA is that there seems to be a negative perception of the term. As mentioned in Chapter 1, CA is often used as an all-inclusive term for several other related terms such as reticence, shyness, unwillingness to communicate, quietness, and stage fright (Allen & Bourhis, 1996) and is frequently discerned as a hindrance in learning. Freimuth (1982), for instance, remarked that the "apprehensive student is at a disadvantage" (p. 131) and that the communication apprehensive student's "reluctance to communicate generally leads to poor educational achievement" (p. 132). This echoes McCroskey's (1977) finding that students identified as CA on average have a lower grade point average. In addition, McKeachie (1999) labeled silent students as "problem students" (p. 239) and claimed that this type of student may be "more of a problem than the attention seeker" (p. 239) during discussions. Furthermore, some scholars advocate that CA is a condition that needs to be treated (see e.g., Cooper & Simonds, 2007; Freimuth, 1982). Thus, CA is widely viewed as a barrier to the learning environment.

Conversely, Meyer (2009) contended that silence can be interpreted as a "performative behavior that can function as a means through which meaning and knowledge are constructed" (p. 28) and is "often misinterpreted by teachers who ignore other types of engagement indicators" (p. 27), such as note taking and observation. In addition to considering an instructor's judgment of CA/silence, Meyer (2008) examined student attitudes and found that "not all students may

believe that oral participation is necessary for learning" (p. 21), which may be the rationale behind their silence during class discussions. Consequently, there seems to be a difference of opinion regarding the explanation of a student's seemingly non-participation during class discussions. Scholars range from perceiving CA as a problem to be fixed to perceiving it as a form of classroom engagement.

Prior to this study, I sided with scholars who regarded CA as an impediment to the learning environment. I set out to use cold calling as a means to increase (verbal) participation, and optimistically reasoned that it could simultaneously escalate learning in classrooms. While reducing CA is a main objective in the public speaking course, this study did not measure learning outcomes. As an instructional communication scholar, one of my primary concerns is how to utilize communication across the disciplines not only to teach, but more importantly, to increase learning. Unfortunately, this study did not seek to gauge cognitive, affective, or behavioral learning; all of which have reliable instruments to measure these different types of learning.

Further, I have come to question how participation is perceived and defined in communication literature. With definitions ranging from verbal to nonverbal contributions and generally quantitative in nature, it is paramount that instructors familiarize themselves with the various communication circumstances so as to not misinterpret student participation behaviors. In order to better understand CA, it may be necessary for researchers to rethink using the term as

an all-encompassing expression as there are multiple nuances to this communication phenomenon. This is particularly important considering that there are instruments to measure associated terms such as the Unwillingness to Communicate scale (Burgoon, 1976), Willingness to Communicate scale (Chan & McCroskey, 1987), Introversion scale (Eysenck; 1970; 1971), and Shyness Scale (McCroskey & Richmond, 1991). Even though the differences among them may be slight, the results could be significant.

Grading Participation

One of the criteria for selecting the particular class sections for this thesis was that the instructors asked to assist with collecting data did not grade student participation. This was a deviation from many of the existing studies on cold calling in which a student's participation grade ranged from "10% to 22% of the total [course] grade" (Souza et al., 2007, p. 12) and "40% of the final [course] grade" (Dallimore et al., 2006, p. 360). The choice to select instructors who did not grade participation was considered in conjunction with communication apprehension. For instance, McCroskey and McCroskey (2002) explained that forced participation was unnecessary since "the student can avoid communication and still do well in the course" (p. 33). Further, in order to accommodate students with CA, McCroskey and McCroskey (2002) discouraged instructors to base a substantial portion of the final grade on student communication (i.e. verbal participation) for several reasons. First, they claimed that grading participation has the potential to hinder learning because students

with CA may be more concerned about speaking up in class rather than focusing on the material. Second they posited that while the quality of participation is what should be measured, often times it is the quantity that is evaluated by an instructor. Consequently, following McCroskey and McCroskey's (2002) advice, I sought only those instructors who did not grade participation.

Additionally, my decision to eliminate sections in which instructors graded participation was based upon the knowledge that observing and grading student responses when cold calling on them is highly subjective. Bean and Peterson (1998) proffered, "Most professors determine participation grades impressionistically" and that generally, "assessment and measurement scholars...advise against grading participation" (p. 33). A consideration that an instructor should give to utilizing cold calling in conjunction with grading participation is the ability to "systematically observe" student contributions (Hertenstein, 1991, p. 179). Hertenstein (1991) stressed the importance of observing content (significance of student's contribution), process (presentation of student's contribution), as well as frequency. As a result, I elected to diverge from the procedures of previous cold calling studies because I did not have a systematic way to observe both the quality and quantity of student participation.

It is noteworthy that the results of this study indicate cold calling (sans a considerable participation grade) did not increase CA. In a class where cold calling is used in conjunction with grading participation students may report a decrease in CA because of their desire to earn the weighty grade for

participation. In this way, the student with CA may spend more time focusing on participating for a grade rather than concentrating on their CA.

Conversely, in a class where cold calling is utilized together with grading participation, the motivating factor for students to participate may be due, in large part, to the considerable percentage of the course grade that is based upon a student's classroom participation. Cold calling used in conjunction with a significant participation grade may inadvertently increase a student's CA level because of the pressure to engage in class dialogue. Instructors should beware that mandatory student participation (such as that prompted through cold calling) used in conjunction with grading participation may only be an indication of the presence of verbal communication and not necessarily be a gauge of whether or not learning is taking place. Thus, the findings of this study denote that weighty participation grade need not be used in conjunction with cold calling in order to garner student participation.

Teaching Philosophy

Ornstein and Levine (2008) explained that the educational implications of progressivism include the teacher serving as a "facilitator of knowledge" (p. 180). By this definition, cold calling could be viewed as a progressive teaching strategy and it is important that instructors are conscious of their own teaching philosophy before implementing cold calling in their classrooms. Thus, in addition to describing course expectations, an instructor may want to share their teaching philosophy indicating to students the type of interactive education that he or she

values. Because a student's likelihood of participation is partly based on the relationship shared with the instructor, by expressing a teaching philosophy, students may more fully understand the instructor's rationale behind using a teaching strategy such as cold calling and become more receptive to its implementation.

Intercultural Implications

While previous research has considered the pedagogical implications of cold calling, this is the first study to consider co-cultures and investigate Hispanics, cold calling, and communication apprehension. Numerous classroom intercultural studies have attempted to contextualize culture in the learning environment and compared CA levels between cultures (Barraclough, Christophel, & McCroskey, 1988; Hsu, 2004; Mansson & Myers, 2009; Sallinen-Kuparinen, McCroskey, & Richmond, 1991). As explained in Chapter 1, many of the existing intercultural studies have compared American students (as one homogenous group) and juxtaposed them with a contrasting culture (such as Asian students). However, such studies have not considered the co-cultures that exist within the American student body. Interestingly, this thesis found that the varied cultural groups did not react differently to cold calling from one another in regard to CA.

The drop in CA amongst Caucasian/White students may be due to the fact that they are predisposed to the "expectations for classroom interaction" (Lustig & Koester, 2010, p. 293). Another explanation that should not be disregarded is

that the Hispanic population studied is a co-culture of the larger American culture. This study did not identify whether Hispanic participants were first-generation or sixth-generation; thus, a student's acclimation to the American expectation for participation was also unexplored. Furthermore, it is also important to note that there was perhaps an erroneous assumption that because an individual is of a certain ethnicity, this indicates that they relate to the same culture. For example, while I identify with the Hispanic ethnicity, I would regard myself as a part of the American culture. Therefore, students in this study indicated a particular ethnicity and were assumed to be of a similar culture. Therefore, the correlation between one's ethnicity and culture were not considered.

Despite of the fact that culture and cold calls did not have a significant effect on the decrease in a student's CA, instructors should still be aware of the influence that culture can have in their classrooms. One method of achieving cultural awareness in a classroom may be through pedagogical approaches such as cold calling as it provides a means of exposing students (and instructors) to varied values and beliefs through verbal communication.

The communication style in the US has not been investigated in regard to the effect on those students with CA, but are really shy, quiet, or reticent because of their cultural values. Thomas-Maddox (2002) pointed out the value that US instructors place on verbal classroom participation. Does placing such a high value on student participation force communication apprehensive students to

"deculturate," thus perpetuating the dominating American values regarding attitudes toward communication? This study only explored the effects of cold calling and culture in an introductory public speaking course taught from the Western perspective. Therefore, there are numerous questions that remain unanswered in this area of research. Nonetheless, it was important to examine culture in this study, particularly considering that the participants attend a Hispanic-serving institution and the majority of the participants identified themselves as a part of the Hispanic co-culture. This study offers new insights into how Hispanics react to cold calling in terms of communication apprehension.

Pedagogical Implications

The results of this study have pedagogical implications. For example, the choice to utilize cold calling in the classroom should be carefully contemplated by instructors. At the outset of this study, I naively believed that frequent cold calls and participation in the majority of class meetings would be advantageous for student learning. However, during the period of this investigation, I self reflexively examined my own teaching style, pedagogy, ability, and experience and came to realize that there are some topics better suited for this type of teaching strategy. For example, I critically reflected upon my lesson plans and teaching and found that the types of questions I asked while covering certain topics such as "Outlining" and "Organizing the Body of a Speech" were low-order according to Bloom's Taxonomy (see Bloom, Engelhart, Furst, Hill, & Krathwohl, 1956). My approach to these topics required only student knowledge, comprehension, and

application. Further, because I have a formulaic approach to these types of topics, I found that cold calling limited these "discussions" to a question-and-answer type format in which students were asked for examples, definitions, and close-ended answers.

Other topics I teach such as "Ethics" and "Language" warranted a higher-order type of question to facilitate a discussion in my classrooms. In these cases, the cold calling questions I used required students to analyze, judge, and synthesize their own ideas and consider their own perspective before responding. Yet, cold calling is not a simple question-and-answer session. In order to sustain a productive class discussion, an instructor must also ask follow-up or probing questions (Cooper & Simonds, 2007). This type of questioning provides support for Kellerman and Berger's (1984) power-up-glide model, in which a student's uncertainty may be reduced through the use of an interactive communication strategy (cold calling by an instructor) to maintain a class discussion. Thus, when a teacher warrants discussion and critical thinking, cold calling may be useful strategy to encourage student participation.

Considering that certain pedagogical styles beget discussion more than others, it is important that instructors do not view cold calling as the only means of facilitating a class session or reducing CA. It is important to balance pedagogical approaches and implement a variety of other teaching strategies, such as lecture and small-group work, in order to serve the varied learning styles of students. In essence, various teaching strategies serve as tools within the

instructor's toolbox, utilizing them appropriately to achieve the desired ends—learning.

Furthermore, instructors should remain cognizant that different cultures, be they ethnic, age, sex, etc., may have varying levels of responsiveness to a participatory teaching strategy such as cold calling. Nonetheless, it can be viewed as a viable method because of its ability to generate discussion and not increase CA. Cold calling is most appropriate for discussion-based topics that require critical thinking and when students may benefit from listening to each other's perspectives on a given topic.

Limitations

There are several limitations related to this study that deserve consideration. First, this study is limited in scope because it did not fully consider confounding demographic factors (such as sex). This variable may have had an effect on how cold calls are perceived by the student. In particular, Fassinger (1995) maintained that females participate in class less than males. Considering that sex has been "found to be a significant component of student participation" (Meyer, 2008, p. 6), this confounding variable should be explored in future research.

Second, participant age was not observed. Houser (2005) studied traditional students (18 – 23 years of age) and nontraditional students (above 23 years of age) and found that their expectations of instructor communication

behaviors (such as cold calling) in the classroom varied. This finding reveals that student age should be considered in future studies in which an instructor's use of various teaching strategies are observed as a means to increase participation and/or reduce CA.

Third, despite the fact that the sample population generally represented the larger university student population, the sample size was relatively small (N = 189). Attrition in this study was due to two factors: (a) students during the ten-week quarter may have dropped the course, which decreased the sample population size and (b) one section of the control group had a meager retention rate of 14.81% due to an instructor not meeting with his students during the final week of the course when the posttest surveys were expected to have been distributed; this decreased the sample size further because the survey was administered via e-mail rather than in person. Students, in this case, likely had a lower response rate because they were asked to respond to a third-party (myself) rather than their own instructor.

Fourth, participant sex and age are confounding variables that can be tested and controlled for in future studies. Attrition is, to some extent, expected in a longitudinal research such as that found in this study. Although there were limitations to the present study, the findings remain pertinent in instructional communication scholarship.

Future Research

An area of cold calling that presents opportunities for future research is the collection of statistics from a more diverse student body enrolled in different subject matters. Danneis and Housley Gaffney (2009) summoned scholars to explore "communication instruction in other disciplines" (p. 142) and advocated that communication across the disciplines should be investigated. The data collected for this study was a result of the examination of a course that included undergraduate students enrolled in a class in which the subject matter was communication, in which students may have expected to communicate and/or verbally participate. Moreover, all participants in this study were enrolled in the university's introductory public speaking course, where one of the objectives is to reduce CA. Future research on cold calling should include a wider range of student level (both graduate and undergraduate, lower-division and upper-division) and focus on discussion-based courses from a variety of disciplines. This may further our knowledge of various instructional techniques, including cold calling, that may be useful to apply to other subject areas.

Provided the findings of this study that cold calling does not increase CA, future research should investigate and extend focus to the learning outcomes of students exposed to the cold calling environment. Although it has been found to increase student preparedness and raise the rate of participation, cold calling studies have not thoroughly assessed whether or not learning increases.

Prospective instructional communication research could measure the various types of learning that take place when cold calling is employed in the classroom.

While URT is a sound theory to explore student participation, cold calling, and communication apprehension, it may be equally useful to employ expectancy violations theory (Burgoon, 1978) as a theoretical frame. Specifically, EVT may aid this line of instructional communication scholarship by determining whether or not students expect to participate in classrooms, if the pedagogical strategy of cold calling violates students' classroom expectations, and what impact, if any, all of this may have on communication apprehensive students.

This study diverged from previous investigations of cold calling studies in which the final course grade was largely based upon the student's participation in class discussions. It is also interesting to note that previous studies indicated that students did not identify graded participation as a motive to communicate and engage in the class discussion. The recommendation that "participation grades should be re-examined as an approach to encouraging and assessing student engagement" (Meyer, 2008, p. 21) is deserving of further research. Moreover, this line of inquiry should examine grading participation as a convening variable in order to detect if it is a condition that influences a student's decision to participate in class irrespective of the student's level of CA.

When considering the varied instruments that measure CA, unwillingness to communicate, willingness to communicate, introversion, and shyness, it should be of interest to cross check the independent validity of these measurements.

That is, are these instruments measuring similar or dissimilar communication conditions? What specific components make these scales different from one another? Researchers and instructors must carefully distinguish these terms, contemplate the reasons and ramifications of student silence in class, and consider whether or not it is a condition that needs to be treated or accepted for optimal learning.

Future research should attempt to identify participants' specific ethnic demographic information. For example, is a student first-generation Hispanic? Does a first-generation Hispanic student respond differently to cold calling than a sixth-generation Hispanic student? Does the instructor's ethnicity have an impact on the student's participation or level of CA? By distinguishing these types of differences amongst participants, scholars may gain a better understanding of the underlying influences that culture has on CA.

When examining the literature on culture and its effects on the classroom, it appears that there is a lack of theoretical framing. Using face management theory, An (2008) explored face as an indicator or factor in Chinese student non-participation in the classroom. Additionally, Hsu (2004) provided a theoretical foundation that is not established in many cross-cultural communication studies regarding CA. Hsu (2004) referred to Ayres' component theory of CA. This theory offers several explanations to an individual's level of CA, which include motivation (one's overall goals of a particular communication event), evaluation (self-assessment of how others react towards an individual's communication),

and communication competence (self-judgment of capability to communicate effectively). An (2008) and Hsu (2004) considered the culture's values, placed the values in a classroom context, and framed student participation with using face management theory and component theory of CA as a theoretical framework. Future research may explore the issue of facework on a deeper level and use a theoretical foundation to frame CA in subsequent research.

This study gives rise to questions such as: Will cold calling decrease CA in courses other than the introductory public speaking course? Will the use of a different theoretical framework further our understanding of the student-instructor relationship, thus modifying a student's participation frequency? Educational paradigms have shifted recently and altered the classroom in varied ways. Instructors promote active learning and seem to emphasize learner-centered approach to teaching. Thus, future research of student participation should be of particular interest, not only to instructional communication scholars and researchers, but also to educators who are searching for instructional strategies to increase learning and comprehension.

APPENDIX A

INSTITUTIONAL REVIEW BOARD APPROVAL LETTER

CALIFORNIA STATE UNIVERSITY
SAN BERNARDINO

Academic Affairs
Office of Academic Research • Institutional Review Board

September 25, 2009

CSUSB INSTITUTIONAL REVIEW BOARD
Expedited Review
IRB# 09027
Status
APPROVED

Ms. Kimberly Aguilar
c/o: Prof. Heather Hundley
Department of Communication Studies
California State University
5500 University Parkway
San Bernardino, California 92407

Dear Ms. Aguilar:

Your application to use human subjects, titled "What if I'am Scared to Speak Up? An Investigation of Cold Calling and Communication Apprehension in the Classroom" has been reviewed and approved by the Institutional Review Board (IRB). The attached *informed consent* document has been stamped and signed by the IRB chairperson. All subsequent copies used must be this officially approved version. A change in your informed consent (no matter how minor the change) requires resubmission of your protocol as amended. **Your application is approved for one year from 09/25/2009 through 09/24/2010. One month prior to the approval end date you need to file for a renewal if you have not completed your research. The protocol renewal form is on the IRB website. See additional requirements of your approval below.**

The CSUSB IRB has not evaluated your proposal for scientific merit, except to weigh the risk to the human participants and the aspects of the proposal related to potential risk and benefit. This approval notice does not replace any departmental or additional approvals which may be required.

Your responsibilities as the researcher/investigator reporting to the IRB Committee include the following requirements. You are required to notify the IRB of the following: 1) **submit a protocol change form if any substantive changes (no matter how minor) are made in your research prospectus/protocol, 2) if any unanticipated/adverse events are experienced by subjects during your research,** and 3) **when your project has ended by emailing the IRB Coordinator.** Please note that the protocol change form and renewal form are located on the IRB website under the forms menu. Failure to notify the IRB of the above may result in disciplinary action. You are required to keep copies of the informed consent forms and data for at least three years.

If you have any questions regarding the IRB decision, please contact Michael Gillespie, IRB Compliance Coordinator. Mr. Michael Gillespie can be reached by phone at (909) 537-7588, by fax at (909) 537-7028, or by email at mgillesp@csusb.edu. Please include your application identification number (above) in all correspondence.

Best of luck with your research.

Sincerely,
Sharon L Ward. Ph.D

Sharon Ward, Ph.D., Chair
Institutional Review Board

SW/mg

cc: Prof. Heather Hundley, Department of Communication Studies

909.537.7588 • fax: 909.537.7028 • http://irb.csusb.edu/
5500 UNIVERSITY PARKWAY, SAN BERNARDINO, CA 92407-2393

APPENDIX B

LETTER OF CONSENT

CALIFORNIA STATE UNIVERSITY
SAN BERNARDINO

College of Arts and Letters
Department of Communication Studies

CALIFORNIA STATE UNIVERSITY, SAN BERNARDINO
INSTITUTIONAL REVIEW BOARD COMMITTEE
APPROVED 09/25/09 VOID AFTER 09/24/10
IRB# 09027 Sharon A Ward, Ph.

Dear Participant,

The study in which you are being asked to participate in is designed to investigate your classroom communication behaviors as a student and your feelings about communicating with other people. You are a potential participant because you are a student in Communication 120 (Oral Communication). I am conducting this study under the supervision of Dr. Heather Hundley, Professor of Communication Studies, California State University, San Bernardino. This study has been approved by the Institutional Review Board, California State University, San Bernardino.

This study is designed to gain a better understanding of student's participation expectations, communication apprehension, and opinions regarding various teaching strategies found in the classroom. As a participant, you will be asked to complete two surveys (one at the beginning of the quarter and one at the end of the quarter), which will take approximately 10-20 minutes each to complete.

Taking part in this study is completely voluntary. If you choose not to participate in this study, it will not affect your course grade. No incentives (such as extra credit) will be offered for your participation in this study. If you choose to be in the study, you can withdraw at any time without consequences of any kind and you do not have to answer every question if you do not feel comfortable doing so. If you consent to participate in this study, the estimated time to complete the surveys is 10-20 minutes each.

The records of this study will be kept private. You will not be expected to write your name on the surveys that you complete. Each survey has an assigned PIN (personal identification number) to maintain your confidentiality. The results will not identify you personally in any way. The surveys will be kept in the researcher's home. Therefore, no one else will have access to the data.

There are no physical or emotional risks known in this study. The only foreseeable costs associated to this study for the participant is the time involved to complete both of the surveys. Results from this study will be used to expand on the literature and knowledge of communication apprehension and student participation in the college classroom. For more information about the study, you can contact my faculty supervisor, Dr. Heather Hundley at hhundley@csusb.edu or 760.341.2883 ext. 78140.
If you have any questions about whether you have been treated in an illegal or unethical way, contact the California State University, San Bernardino Institutional Research Board chair, Professor Sharon Ward, Ph.D. at sward@csusb.edu or 909.537.7304 or 909. 537.7028. Results of this study can be obtained in the Pfau Library after August 2010.

Thank you,
Aguilar
Kimberly Aguilar

I have read the above information and understand that this survey is voluntary and I may stop at any time. By signing this consent form, I am also indicating that I am of adult legal age (18 years or older). I consent to participate in the study.

Signature: _____ Date: _____

909.537.5815 • fax: 909.537.7009 • fax: 909.537.7585
5500 UNIVERSITY PARKWAY, SAN BERNARDINO, CA 92407-2393

APPENDIX C

INSTITUTIONAL REVIEW BOARD ADDENDA

INSTITUTIONAL REVIEW BOARD (IRB)
CALIFORNIA STATE UNIVERSITY, SAN BERNARDINO

Human Subjects Protocol Change Form

DATE: 02/01/10 IRB NUMBER: 09027

REVIEW CATEGORY: EXEMPT ☐ EXPEDITED X FULL BOARD ☐

Note: All changes to your originally approved protocol, *no matter how minor*, require IRB approval before implementation.

INVESTIGATOR(s) / RESEARCHER(s): Kimberly Aguilar
E-mail Address: aguik305@csusb.edu

DEPARTMENT: Communication Studies

PROJECT TITLE: What If I'm Scared to Speak Up? An Investigation of Cold Calling and Communication Apprehension in the Classroom

Please return this fully completed form to the IRB Coordinator, Mr. Michael L. Gillespie, in the Office of Academic Research (Administration Building). Attach additional sheets if necessary to describe in detail any changes to the original approved protocol or methodology related to your research or the human subjects thereof.

(Please see attached memo)

Have there been any adverse events or unanticipated problem(s) that relate to the research conducted and/or human subjects utilized in your research, since your protocol was originally approved? You are required to fill out the (AE) adverse event report if an adverse event occurred during the conduct of your research (see IRB website). Fill that form out and turn it in with this protocol change form.

YES ☐ NO X

Investigator(s) Assurance:

The information and answers to the questions above are true and accurate to the best of my knowledge, and I understand that prior IRB approval is required before initiating any changes that may affect human subject participant(s) in the originally approved research protocol. I also understand that in accordance with federal regulations I am to report to the IRB or its administrative designee any adverse events that may arise during the course of this research.

Kaguilar. 02/01/10
Signature of Investigator(s)/Researcher(s) Date

02/01/10
Signature of Faculty Advisor for Student Researchers Date

2/1/10
Signature of IRB Chair Approving this Change Date

Approval of renewed protocol / methodology is granted from: 09/25/09 to 09/24/10

Please renew in August 2010 before your approval ends.

To: Michael Gillespie, IRB Coordinator

From: Kimberly Aguilar
Department of Communication Studies

Re: IRB #09027

ADDENDUM

After careful consideration, my thesis committee is requiring that I make several adjustments to the research project titled, "What If I'm Scared to Speak Up? An Investigation of Cold Calling and Communication Apprehension in the Classroom." The following protocol changes are being submitted for IRB approval:

1. **Additional Participant Recruitment**: In order to increase my sample size and include a control group in my research design, I propose to recruit student participants for this study from eight selected sections of COMM 120 (Oral Communication) classes in the Spring 2010 quarter. I will be teaching two of the sections on the California State University, San Bernardino campus. Instructors in the Department of Communication Studies at California State University, San Bernardino, will teach the other six sections of COMM 120. Student participation is voluntary and no extra credit will be offered. All participants will be current undergraduate students at CSUSB. Participants in the study will be both male and female. The approximate age of participants will be between the ages of 18 and 25. If any students are under legal adult age, they will not be used in the study.

2. **Change to Survey Instrument**: Beginning in the Spring quarter 2010, I propose to amend the survey instrument by omitting page 3 (Survey Part II). I also intend to modify the title on page 4 of the pretest survey (from Survey Part III to Survey Part II) in order to avoid participant confusion.

Please feel free to contact me at: aguik305@csusb.edu or Dr Heather Hundley at: hhundley@csusb.edu if you have any questions about the above addendum.

Thank you,
Kimberly Aguilar

Signature of Investigator(s)/Researcher(s) — 02/01/10 Date

Signature of Faculty Advisor for Student Researchers — 02/01/10 Date

INSTITUTIONAL REVIEW BOARD (IRB)
CALIFORNIA STATE UNIVERSITY, SAN BERNARDINO

Human Subjects Protocol Change Form

DATE: 06/10/10 IRB NUMBER: 09027

REVIEW CATEGORY: EXEMPT ☐ EXPEDITED ☒ FULL BOARD ☐

Note: All changes to your originally approved protocol, *no matter how minor*, require IRB approval before implementation.

INVESTIGATOR(s) / RESEARCHER(s): Kimberly N. Aguilar
E-mail Address: aguik305@csusb.edu

DEPARTMENT: Communication Studies

PROJECT TITLE: "What If I'm Scared to Speak Up? An Investigation of Cold Calling and Communication Apprehension in the Classroom"

Please return this fully completed form to the IRB Coordinator, Mr. Michael L. Gillespie, in the Office of Academic Research (Administration Building). Attach additional sheets if necessary to describe in detail any changes to the original approved protocol or methodology related to your research or the human subjects thereof.

See Attached

Have there been any adverse events or unanticipated problem(s) that relate to the research conducted and/or human subjects utilized in your research, since your protocol was originally approved? You are required to fill out the (AE) adverse event report if an adverse event occurred during the conduct of your research (see IRB website). Fill that form out and turn it in with this protocol change form.

YES ☐ NO X

Investigator(s) Assurance:

The information and answers to the questions above are true and accurate to the best of my knowledge, and I understand that prior IRB approval is required before initiating any changes that may affect human subject participant(s) in the originally approved research protocol. I also understand that in accordance with federal regulations I am to report to the IRB or its administrative designee any adverse events that may arise during the course of this research.

Kaguilar. 06/10/10
Signature of Investigator(s)/Researcher(s) Date

Heather Lindsey 06/10/10
Signature of Faculty Advisor for Student Researchers Date

[signature] 6/14/10
Signature of IRB Chair Approving this Change Date

Approval of renewed protocol / methodology is granted from: 09/25/09 to 09/24/10

To: Michael Gillespie, IRB Coordinator
Sharon Ward, IRB Chair

From: Kimberly Aguilar
Department of Communication Studies

Re: IRB #09027

ADDENDUM

One of the professors whose students participated in my pretest survey at the beginning of Spring Quarter 2010 (Dr. Brad Owen) is unfortunately not meeting with his class during the last week of the quarter (the IRB-approved time period for posttest data collection). Therefore, I am requesting an adjustment to the research project titled, "What If I'm Scared to Speak Up? An Investigation of Cold Calling and Communication Apprehension in the Classroom," so that I do not lose this valuable data for my study. The following protocol change is being submitted for IRB approval:

1. **Protocol Change in Data Collection**: In Communication 120, Section 13, Dr. Brad Owen will email the 27 students enrolled in his course whose consent I already attained at the beginning of Spring Quarter 2010. Dr. Owen will attach my IRB-approved posttest survey to his email and request that the students complete the survey promptly and then email the completed survey to me at my campus email address (aguik305@csusb.edu). In order to maintain student privacy, the students will be emailed individually.

The data collection deadline will be Tuesday, June 15th, 2010. I appreciate your prompt attention to this matter. Please feel free to contact me at: aguik305@csusb.edu or Dr Heather Hundley at: hhundley@csusb.edu if you have any questions about the above addendum.

Thank you,
Kimberly Aguilar

Signature of Investigator(s)/Researcher(s) — 06/10/10 Date

Signature of Faculty Advisor for Student Researchers X78140 — 06/10/10 Date

APPENDIX D

PRETEST SURVEY INSTRUMENT

PIN: _____

Survey Part I

DIRECTIONS:
Part I of this survey is concerned with your feelings about communicating with other people. Please indicate the degree to which each statement applies to you by marking whether you **strongly agree (1), agree (2), undecided (3), disagree (4), or strongly disagree (5).** Indicate your response by circling the one answer that best describes you.

Work quickly to record your first impression.

Statement	Strongly Agree	Agree	Undecided	Disagree	Strongly Disagree
1. I dislike participating in group discussions.	1	2	3	4	5
2. Generally, I am comfortable while participating in group discussions.	1	2	3	4	5
3. I am tense and nervous while participating in group discussions.	1	2	3	4	5
4. I like to get involved with group discussions.	1	2	3	4	5
5. Engaging in group discussions with new people makes me feel tense and nervous.	1	2	3	4	5
6. I am calm and relaxed while participating in group discussions.	1	2	3	4	5
7. Generally, I am nervous when I have to participate during a class meeting.	1	2	3	4	5
8. Usually I am calm and relaxed while participating during class meetings.	1	2	3	4	5
9. I am very calm and relaxed when I am called upon to express an opinion during a class meeting.	1	2	3	4	5
10. I am afraid to express myself during class meetings.	1	2	3	4	5
11. Communicating during class meetings usually makes me uncomfortable.	1	2	3	4	5
12. I am very relaxed when answering questions during a class meeting.	1	2	3	4	5

	Strongly Agree	Agree	Undecided	Disagree	Strongly Disagree
13. While participating in a conversation with a new acquaintance, I feel very nervous.	1	2	3	4	5
14. I have no fear of speaking up in conversations.	1	2	3	4	5
15. Ordinarily I am very tense and nervous in conversations.	1	2	3	4	5
16. Ordinarily I am very calm and relaxed in conversations.	1	2	3	4	5
17. While conversing with a new acquaintance, I feel very relaxed.	1	2	3	4	5
18. I'm afraid to speak up in conversations.	1	2	3	4	5
19. I have no fear of giving a speech.	1	2	3	4	5
20. Certain parts of my body feel very tense and rigid while giving a speech.	1	2	3	4	5
21. I feel relaxed while giving a speech.	1	2	3	4	5
22. My thoughts become confused and jumbled when I am giving a speech.	1	2	3	4	5
23. I face the prospect of giving a speech with confidence.	1	2	3	4	5
24. While giving a speech, I get so nervous I forget facts I really know.	1	2	3	4	5

Survey Part II

Please take a moment and answer a few questions about yourself.

What is your Major? _____

1. What is your class standing? (check one)
   ____Freshman ____Sophomore ____Junior ____Senior ____Other

2. Ethnicity (check all that apply):
   ____Hispanic ____Caucasian/White ____Native American

   ____Black/African-American ____Asian/Pacific Islander ____Other

3. What is your sex? (check one)
   ____Female ____Male

Thank you for your participation in this study. I appreciate your time and effort in completing this survey. Once you have completed your survey, please return it to the instructor. Please be sure that you have not written your name or any other identifying information on the survey itself.

APPENDIX E

POSTTEST SURVEY INSTRUMENT

PIN: _____

Survey Part I

DIRECTIONS:
Part I of this survey is concerned with your feelings about communicating with other people. Please indicate the degree to which each statement applies to you by marking whether you **strongly agree (1), agree (2), undecided (3), disagree (4), or strongly disagree (5).** Indicate your response by circling the one answer that best describes you.

Work quickly to record your first impression.

Statement	Strongly Agree	Agree	Undecided	Disagree	Strongly Disagree
1. I dislike participating in group discussions.	1	2	3	4	5
2. Generally, I am comfortable while participating in group discussions.	1	2	3	4	5
3. I am tense and nervous while participating in group discussions.	1	2	3	4	5
4. I like to get involved with group discussions.	1	2	3	4	5
5. Engaging in group discussions with new people makes me feel tense and nervous.	1	2	3	4	5
6. I am calm and relaxed while participating in group discussions.	1	2	3	4	5
7. Generally, I am nervous when I have to participate during a class meeting.	1	2	3	4	5
8. Usually I am calm and relaxed while participating during class meetings.	1	2	3	4	5
9. I am very calm and relaxed when I am called upon to express an opinion during a class meeting.	1	2	3	4	5
10. I am afraid to express myself during class meetings.	1	2	3	4	5
11. Communicating during class meetings usually makes me uncomfortable.	1	2	3	4	5
12. I am very relaxed when answering questions during a class meeting.	1	2	3	4	5

	Strongly Agree	Agree	Undecided	Disagree	Strongly Disagree
13. While participating in a conversation with a new acquaintance, I feel very nervous.	1	2	3	4	5
14. I have no fear of speaking up in conversations.	1	2	3	4	5
15. Ordinarily I am very tense and nervous in conversations.	1	2	3	4	5
16. Ordinarily I am very calm and relaxed in conversations.	1	2	3	4	5
17. While conversing with a new acquaintance, I feel very relaxed.	1	2	3	4	5
18. I'm afraid to speak up in conversations.	1	2	3	4	5
19. I have no fear of giving a speech.	1	2	3	4	5
20. Certain parts of my body feel very tense and rigid while giving a speech.	1	2	3	4	5
21. I feel relaxed while giving a speech.	1	2	3	4	5
22. My thoughts become confused and jumbled when I am giving a speech.	1	2	3	4	5
23. I face the prospect of giving a speech with confidence.	1	2	3	4	5
24. While giving a speech, I get so nervous I forget facts I really know.	1	2	3	4	5

Thank you for your participation in this study. I appreciate your time and effort in completing this survey. Once you have completed your survey, please return it to the instructor. Please be sure that you have not written your name or any other identifying information on the survey itself.

APPENDIX F

CODEBOOK

Variable Name	Variable Label	Key	Columns	Range
ID	Personal identification number		1	1 - 238
PREPRCA 01 - 24	Personal Inventory of Communication Apprehension	1 = Strongly Agree 2 = Agree 3 = Undecided 4 = Disagree 5 = Strongly Disagree	2 - 25	1-5
MAJOR	Participant's Major		26	
CLASS	Participant's Class Standing	1 = Freshman 2 = Sophomore 3 = Junior 4 = Senior 5 = Graduate Student	27	1-5
HISPANIC	Hispanic Ethnicity	1 = No 2 = Yes	28	1 - 2
CAUC/WHITE	Caucasian/White Ethnicity	1 = No 2 = Yes	29	1 - 2
NATAMER	Native American Ethnicity	1 = No 2 = Yes	30	1 - 2
BLACK	Black/African-American Ethnicity	1 = No 2 = Yes	31	1 - 2
ASIAN	Asian/Pacific Islander Ethnicity	1 = No 2 = Yes	32	1 - 2
OTHER	Other Ethnicity	1 = No 2 = Yes	33	1 - 2
SEX	Participant's Sex	1 = Female 2 = Male	34	1 - 2
POSTPRCA 01 - 24	Personal Inventory of Communication Apprehension	1 = Strongly Agree 2 = Agree 3 = Undecided 4 = Disagree 5 = Strongly Disagree	35 - 58	1-5
WHITENONHISP	Participant's Ethnicity	0 = NA 1 = Hispanic of some sort 2 = White	59 – 61	0 - 2
GROUP	Experimental/Control Group	1 = Experimental Group 2 = Control Group	62	1 - 2
PREPRCASCORE	Pretest PRCA Score		63	24 -120
POSTPRCASCORE	Posttest PRCA Score		64	24 -120
PREMEETINGSCORE	Pretest Meeting Score		65	6 - 30
POSTMEETINGSCORE	Posttest Meeting Score		66	6 – 30
PRCADIFF	PRCA Score Difference		67	
PRCAMTGDIFF	PRCA Meeting Score Difference		68	

PREPRCAREVERSECODE	PRCA Pretest Reverse Codes for Statements 1, 3, 5, 7, 10, 11, 13, 15, 18, 20, 22, and 24	1 = Strongly Disagree 2 = Disagree 3 = Undecided 4 = Agree 5 = Strongly Agree	69 - 81	1 - 5
POSTPRCAREVERSECODE	PRCA Posttest Reverse Codes for Statements 1, 3, 5, 7, 10, 11, 13, 15, 18, 20, 22, and 24	1 = Strongly Disagree 2 = Disagree 3 = Undecided 4 = Agree 5 = Strongly Agree	82 - 93	1 - 5

REFERENCES

Allen, J. L., O'Mara, J., Long, K.M., & Judd, B. (1986, November). *Communication competence, anxiety, avoidance behaviors, and the classroom experiences of nonnative English speakers in the U.S.* Paper presented at the annual meeting of the Speech Communication Association Convention, Chicago, IL.

Allen, M., & Bourhis, J. (1996). The relationship of communication apprehension to communication behavior: A meta-analysis. *Communication Quarterly, 44*, 214-226.

Altman, I., & Taylor, D. A. (1973). *Social penetration: The development of interpersonal relationships.* New York, NY: Holt, Rinehart, & Winston.

An, Z. (2008, May). *Perceived face threat in classroom participation: A comparison of Chinese and U.S. Americans*. Paper presented at the International Communication Association convention, Montreal, Canada.

Andersen, J. F., & Powell, R. (1991). Intercultural communication and the classroom. In L. A. Samovar, & R. E. Porter (Eds.), *Intercultural communication: A reader* (pp. 208-214). Belmont, CA: Wadsworth.

Barraclough, R. A., Christophel, D. M., & McCroskey, J. C. (1988). Willingness to communicate: A cross-cultural investigation. *Communication Research Reports, 5*, 187-192.

Bean, J. C., & Peterson, D. (1998). Grading classroom participation. *New Directions for Teaching and Learning, 74*, 33-40.

Berger, C. R. (1986). Uncertain outcome values in predicted relationships: Uncertainty reduction theory then and now. *Human Communication Research, 13*, 34-38.

Berger, C. R., & Bradac, J. J. (1982). *Language and social knowledge: Uncertainty in interpersonal relationships*. London: Edward Arnold.

Berger, C. R., & Calabrese, R. J. (1975). Some explorations in initial interaction and beyond: Toward a developmental theory of interpersonal communication. *Human Communication Research, 1*, 99-112.

Berger, C. R., & Douglas, W. (1981). Studies in interpersonal epistemology III: Anticipated interaction, self-monitoring, and observational context selection. *Communication Monographs, 48*, 183-196.

Bloom, B. S., Engelhart, M., Furst, E., Hill, W., & Krathwohl, D. (1956). *Taxonomy of educational objectives: Cognitive domain*. New York, NY: David McKay.

Brown, C. T., & Pruis, J. J. (1958). Encouraging participation in classroom discussion. *Speech Teacher*, 7, 344-346.

Burgoon, J. K. (1976). The unwillingness-to-communicate scale: Development and validation. *Communication Monographs, 43*, 60-69.

Burgoon, J. K. (1978). A communication model of personal space violations: Explication and an initial test. *Human Communication Research, 4*, 129-142.

Burk, J. (2001). Communication apprehension among Master's of business administration students: Investigating a gap in communication education. *Communication Education, 50*, 51-58.

Chan, B., & McCroskey, J. C. (1987). The WTC scale as a predictor of classroom participation. *Communication Research Reports, 4*, 47-50.

Chesebro, J. L., & McCroskey, J. C. (2002). *Communication for teachers*. Boston, MA: Allyn & Bacon.

Christensen, C. R. (1991). The discussion teacher in action: Questioning, listening, and response. In C. R. Christensen, D. A. Garvin, & A. Sweet (Eds.), *Education for judgment: The art of discussion leadership* (pp. 153-172). Boston, MA: Harvard Business School Press.

Christensen, C. R., & Hansen, A. J. (Eds.). (1987). *Teaching and the case method: Text, cases, and readings*. Boston, MA: Harvard Business School Press.

Cooper, P. J., & Simonds, C. J. (2007). *Communication for the classroom teacher* (8th ed.). Boston, MA: Allyn & Bacon.

Cragan, J. F., & Shields, D. C. (1999). Translating scholarship into practice: Communication studies reflecting the value of theory-based research to everyday life. *Journal of Applied Communication Research, 27*, 92-106.

Dallimore, E. J., Hertenstein, J. H., & Platt, M. B. (2004). Classroom participation and discussion effectiveness: Student-generated strategies. *Communication Education, 53*, 103-115.

Dallimore, E. J., Hertenstein, J. H., & Platt, M. B. (2005). Faculty-generated strategies for "cold calling" use: A comparative analysis with student recommendations. *Journal on Excellence in College Teaching, 16*, 23-62.

Dallimore, E. J., Hertenstein, J. H., & Platt, M. B. (2006). Nonvoluntary class participation in graduate discussion courses: Effects of grading and cold calling. *Journal of Management Education, 30*, 354-377.

Dannels, D. P., & Housley Gaffney, A. L. (2009). Communication across the curriculum and in the disciplines: A call for scholarly cross-curricular advocacy. *Communication Education, 58, 124-153.*

Douglas, W. (1990). Uncertainty, information-seeking, and liking during initial interaction. *Western Journal of Speech Communication, 54*, 66-81.

Dwyer, K. K. (1998). Communication apprehension and learning style preference: Correlations and implications for teaching. *Communication Education, 47*, 137-150.

Eysenck, H. J. (1970). *Readings in extraversion-introversion: Volume I.* New York, NY: Wiley-Interscience.

Eysenck, H. J. (1971). *Readings in extraversion-introversion: Volume II.* New York, NY: Wiley-Interscience.

Facts and Stats. (2009). Retrieved March 26, 2010, from http://www.csusb.edu/aboutCSUSB/FactsStats.aspx

Fassinger, P. A. (1995). Understanding classroom interaction. *The Journal of Higher Education, 66*, 82-96.

Fassinger, P. A. (2000). How classes influence students' participation in college classrooms. *Journal of Classroom Interaction, 35*, 38-47.

Fink, L. D. (2003). *Creating significant learning experiences: An integrated approach to designing college courses*. San Francisco, CA: Jossey-Bass.

Fisher, B. A. (1978). *Perspectives on human communication*. New York, NY: Macmillan.

Fortney, S. D., Johnson, D. I., & Long, K. M. (2001). The impact of compulsive communicators on the self-perceived competence of classroom peers: An investigation and test of instructional strategies. *Communication Education, 50*, 357-373.

Freimuth, V. S. (1982). Communication apprehension in the classroom. In L. L. Barker (Ed.), *Communication in the classroom* (pp. 121-145). Englewood Cliffs, NJ: Prentice-Hall.

Frymier, A., & Weser, B. (2001). The role of student predispositions on student expectations for instructor communication behavior. *Communication Education, 50*, 314-326.

Goodboy, A. K., & Myers, S. A. (2007). Student communication satisfaction and liking as a function of attributional confidence. *Ohio Communication Journal, 45*, 1-12.

Grossman, H. (1995). *Teaching in a diverse society*. Boston, MA: Allyn & Bacon.

Gudykunst, W. B. (1983). Uncertainty reduction and predictability of behavior in low- and high-context cultures: An exploratory study. *Communication Quarterly, 31*, 40-55.

Gudykunst, W. B., Yang, S. M., & Nishida, T. (1985). A cross-cultural test of uncertainty reduction theory: Comparisons of acquaintances, friends, and dating relationships in Japan, Korea, and the United States. *Human Communication Research, 11*, 407-454.

Hall, E. T. (1976). *Beyond culture*. New York, NY: Anchor Books.

Hansen, A. J. (1987). Background information on a graduate school of business administration. In C. R. Christensen, & A. J. Hansen (Eds.), *Teaching and the case method: Text, cases, and readings* (pp. 133-134). Boston, MA: Harvard Business School Press.

Hertenstein, J. H. (1991). Patterns of participation. In C. R. Christensen, D. A. Garvin, & A. Sweet (Eds.), *Education for judgment: The art of discussion leadership* (pp. 175-191). Boston, MA: Harvard Business School Press.

Hispanic Association of Colleges and Universities. (2006). *Facts on Hispanic higher education: Hispanic representation in education.* Retrieved from http://www.hacu.net/hacu/Data,_Statistics,_and_ Research_EN.asp?SnID=1288222855

Hofstede, G. (2001). *Culture's consequences*. Thousand Oaks, CA: Sage.

Houser, M. L. (2005). Are we violating their expectations? Instructor communication expectations of traditional and nontraditional students. *Communication Quarterly, 53*, 213-228.

Hsu, C. (2004). Sources of differences in communication apprehension between Chinese in Taiwan and Americans. *Communication Quarterly, 52*, 370-389.

Kahn, E. (2007). Building fires: raising achievement through class discussion. *English Journal, 96*, 16-18.

Kellerman, K. A., & Berger, C. R. (1984). Affect and social information acquisition: Sit back, relax, and tell me about yourself. In R. N. Bostrom (Ed.), *Communication yearbook* (pp. 412-445). Beverly Hills, CA: Sage.

Knobloch, L. K. (2008). Uncertainty reduction theory: Communicating under conditions of ambiguity. In L. A. Baxter & D. O. Braithwaite (Eds.), *Engaging theories in interpersonal communication: Multiple perspectives* (pp. 133-144). Los Angeles, CA: Sage.

Leeds-Hurwitz, W. (1990). Notes in the history of intercultural communication: The Foreign Service Institute and the mandate for intercultural training. *Quarterly Journal of Speech, 76*, 262-281.

Littlejohn, S. W., & Foss, K. A. (2008). *Theories of human communication* (9th ed.). Belmont, CA: Thomson Wadsworth.

Long, K. M., Fortney, S. D., & Johnson, D. I. (2000). An observer measure of compulsive communication. *Communication Research Reports, 17*, 349-356.

Lu, Y., & Hsu, C. (2008). Willingness to communication in intercultural interactions between Chinese and Americans. *Journal of Intercultural Communication Research, 37*, 75-88.

Lucas, S. E. (2009). *The art of public speaking* (10th ed.). New York, NY: McGraw Hill.

Lustig, M. W., & Koester, J. (2010). *Intercultural competence: Interpersonal communication across cultures*. Boston, MA: Allyn & Bacon.

Mansson, D. H., & Myers, S. A. (2009). A reexamination of Swedish and American students' communicative attributes. *Journal of Intercultural Communication Research, 38,* 9-22.

Martin, M. M., Myers, S. A., & Mottet, T. P. (1999). Students' motives for communicating with their instructors. *Communication Education, 48*, 155-164.

Martin, M. M., Myers, S. A., & Mottet, T. P. (2002). Students' motives for communicating with their instructors. In J. L. Chesebro & J. C. McCroskey (Eds.), *Communication for teachers* (pp. 35-46). Boston, MA: Allyn & Bacon.

McCroskey, J. C. (1977). Classroom consequences of communication apprehension. *Communication Education, 26*, 27-34.

McCroskey, J. (1982). *Introduction to rhetorical communication* (4th ed.). Englewood Cliffs, NJ: Prentice Hall.

McCroskey, J. C., & Andersen, J. F. (1976). The relationship between communication apprehension and academic achievement among college students. *Human Communication Research, 3*, 73-81.

McCroskey, J. C., Beatty, M. J., Kearney, P., & Plax, T. G. (1985). The content validity of the PRCA-24 as a measure of communication apprehension across communication contexts. *Communication Quarterly, 33*, 165-173.

McCroskey, L. L., & McCroskey, J. C. (2002). Willingness to communicate and communication apprehension in the classroom. In J. L. Chesebro & J. C. McCroskey (Eds.), *Communication for teachers* (pp. 19-33). Boston, MA: Allyn & Bacon.

McCroskey, J. C., & Payne, S. K. (1986). The impact of communication apprehension on student retention and success: A preliminary report. *ACA Bulletin, 56*, 65-69.

McCroskey, J., & Richmond, V. (1991). *Quiet children and the classroom teacher*. Urbana, IL: ERIC Clearinghouse on Reading and Communication Skills.

McCroskey, J. C., & Richmond, V. P. (1993). Identifying compulsive communicators: The talkaholic scale. *Communication Research Reports, 10*, 107-114.

McKeachie, W. J. (1999). *McKeachie's teaching tips: Strategies, research, and theory for college and university teachers*. Boston, MA: Houghton Mifflin Company.

McPherson, M. B., & Liang Y. (2007). Students' reactions to teachers' management of compulsive communicators. *Communication Education, 56*, 18-33.

Meyer, K. R. (2008, November). *Student classroom engagement: A multiple linear regression analysis of the variables predicting student silence and participation.* Paper presented at the National Communication Association convention, San Diego, CA.

Meyer, K. R. (2009, November). *Student classroom participation: Exploring student definitions of, motivations for, and recommendations regarding participation.* Paper presented at the National Communication Association convention, Chicago, IL.

Morreale, S., Hugenberg, L., & Worley, D. (2006). The basic communication course at U.S. colleges and universities in the 21st century: Study VII. *Communication Education, 55*, 415-437.

Myers, S. A., Edwards, C. Wahl, S., & Martin, M. M. (2007). The relationship between perceived instructor aggressive communication and college student involvement. *Communication Education, 56*, 495-508.

Neer, M. R. (1987). The development of an instrument to measure classroom apprehension. *Communication Education, 36*, 154-166.

Neer, M. R., & Faye, K. W. (1989). Apprehensives' perception of classroom factors influencing their class participation. *Communication Research Reports, 6*, 70-77.

Neuliep, J. W., & Grohskopf, E. L. (2000). Uncertainty reduction and communication satisfaction during initial interaction: An initial test and replication of a new axiom. *Communication Reports, 13*, 67-76.

Norms for the PRCA-24. (1982). Retrieved June 1, 2010, from http://www.jamescmccroskey.com/measures/prca24.htm

Oh, I., Frank, M., & Stone, M. (2007, May). *Face-to-face communication of uncertainty: Expression and recognition of uncertainty signals by different levels across modalities*. Paper presented at the meeting of the International Communication Association, San Francisco, CA.

Orbe, M. P. (1998). *Constructing co-cultural theory: An explication of culture, power and communication*. Thousand Oaks, CA: Sage.

Orbe, M. P., & Harris, T. M. (2001). *Interracial communication: Theory into practice*. Belmont, CA: Wadsworth.

Ornstein, A. C., & Levine, D. U. (2008). *Foundations of education* (10th ed.). Boston, MA: Wadsworth Cengage Learning.

Parks, M. R., & Adelman, M. B. (1983). Communication networks and the development of romantic relationships: An expansion of uncertainty reduction theory. *Human Communication Research, 10*, 55-79.

Powell, R. G., & Caseau, D. (2004). *Classroom communication and diversity: Enhancing instructional practice.* Mahwah, NJ: Lawrence Erlbaum Associates.

Pratt, L., Wiseman, R. L., Cody, M. J., & Wendt, P. F. (1999). Interrogative strategies and information exchange in computer-mediated communication. *Communication Quarterly, 47*, 46-66.

Qualters, D. (2000). *Using classroom assessment data to improve student learning.* Center for Effective Teaching and GE Master's Team, Northeastern University.

Rocca, K. A. (2010). Student participation in the college classroom: An extended multidisciplinary literature review. *Communication Education, 59*, 185-213.

Rosmarin, A. (1987). The art of leading a discussion. In C. R. Christensen & A. J. Hansen (Eds.), *Teaching and the case method: Text, cases, and readings* (pp. 235-240). Boston, MA: Harvard Business School.

Sallinen-Kuparinen, A., McCroskey, J. C., & Richmond, V. P. (1991). Willingness to communicate, communication apprehension, introversion, and self-reported communication competence: Finnish and American comparisons. *Communication Research Reports, 8,* 55-64.

Sarasin, L. C. (2006). *Learning style perspectives: Impact in the classroom* (2nd ed.). Madison, WI: Atwood.

Socratic Method. (n.d.). Retreived March 3, 2008, from http://www.law.uchicago.edu/socrates/method.html

Sprague, J. (1992). Expanding the research agenda for instructional communication: Raising some unasked questions. *Communication Education, 41*, 1-25.

Souza, T. J., Dallimore, E. J., Pilling, B., & Aoki, E. (2007, February). *Communication climate, comfort, and cold-calling: An analysis of discussion-based courses at multiple universities.* Paper presented at the Western States Communication Association convention, Seattle, WA.

Statistical Package for the Social Sciences (Version 17) [Computer software]. Chicago, IL: SPSS Inc.

Sudweeks, S. (1993, February). *Effective teaching strategies in the culturally diverse classroom.* Paper presented at the Western Speech Communication Conference, Albuquerque, NM.

Tatar, S. (2005). Why keep silent? The classroom participation experiences of non-native-English-speaking students. *Language and Intercultural Communication, 5*, 284-293.

Thomas-Maddox, C. (2002). Communicating with students from other cultures. In J. L. Chesebro & J. C. McCroskey (Eds.), *Communication for teachers* (pp. 172-187). Boston, MA: Allyn & Bacon.

Thibaut, J. W., & Kelley, H. H. (1959). *The social psychology of groups.* New York, NY: Wiley.

US Census Bureau. (2008). *Section 1: Population.* Retrieved from http://www.census.gov/prod/2008pubs/09statab/pop.pdf

Waldeck, J. H. (2007). Answering the question: Student perceptions of personalized education and the construct's relationship to learning outcomes. *Communication Education, 56*, 409-432.

Waldeck, J. H., Seibold, D. R., & Flanagin, A. J. (2004). Organizational assimilation and communication technology use. *Communication Monographs, 71*, 161-183.

Witt, P. L., & Behnke, R. R. (2006). Anticipatory speech anxiety as a function of public speaking assignment type. *Communication Education, 55*, 167-177.

Wood, J. T. (2006). *Communication mosaics: An introduction to the field of communication* (4th ed.). Belmont, CA: Thomson Wadsworth.

Zorn, T. E. (1991). Measuring motivation-to-communicate in the classroom. *Communication Education, 40*, 385-392.