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Relationship Among Connected Classroom Climate and Teacher Verbal and Nonverbal Immediacy and Trait and State Communication Apprehension

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RELATIONSHIP AMONG CONNECTED CLASSROOM CLIMATE AND TEACHER VERBAL AND NONVERBAL IMMEDIACY AND TRAIT AND STATE COMMUNICATION APPREHENSION

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RELATIONSHIP BETWEEN CONNECTED CLASSROOM CLIMATE AND TEACHER VERBAL AND NONVERAL IMMEDICAY AND TRAIT AND STATE COMMUNICATION APPREHENSION

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University of Nebraska, 2005

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Connected classroom climate, teacher immediacy and communication apprehension have been found to have significant impact on students. This study examines the relationship among these variables. A total of 149 students from nine sections of an introductory public speaking course successfully completed five measures for this study. The students self reported their communication apprehension both at the start of the course as well as at the end using the Personal Report of Communication Apprehension 24 (PRCA-24), and also completed surveys on their levels of state communication apprehension after two of the major speaking assignments using the Communication Anxiety Inventory: Form State (CAI). The students also completed measures rating their instructors' levels of verbal and nonverbal immediacy, using the Nonverbal Immediacy Scale-Observer Report (NIS) and the Verbal Immediacy Behaviors (VIB). Finally the students were asked to complete a measure of their perceptions of connected classroom climate, using the Connected Classroom Climate Inventory (CCCI). SPSS was used to explore the statistical relationships among the variables. Data analyses revealed several significant relationships including: post-course PRCA-24 public speaking and public speaking change scores with CCCI; second CAI

with NIS; pre-course PRCA-24 total, meetings, and interpersonal scores with NIS; and post-course PRCA-24 total, group, meetings and interpersonal scores with NIS.

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Introduction

Years of research in the field of instructional communication have focused on a variety of ways to improve the learning environment so that students have the opportunity to reach their maximum potential. Research has looked at variables surrounding the classroom environment, the instruction method, the instructor, the student, power, and a variety of other elements. Research in the field of classroom environment has led to theorizing about classroom climate. Research in the area of teacher behaviors has focused on the topic of teacher immediacy. Research in the area of student behaviors has centered on communication apprehension (CA). Speech communication research has found the importance of teacher immediacy on the cognitive development of students (Richmond, Gorham, & McCroskey, 1987; Frymier & Houser, 2000), the impact of classroom climate on students' levels of trait communication apprehension (Carlson, Dwyer, Bingham, Cruz, Prisbell & Fus, 2003), and the need to reduce student level of communication apprehension (McCroskey, 1976; Messman & Jones-Corley, 2001). However the interaction among the variables, teacher immediacy, connected classroom climate and CA has not been fully explored. The purpose of the study is to look at the interaction among verbal and nonverbal teacher immediacy, classroom climate, and trait and state communication apprehension.

Communication Apprehension

Definitions and Types of Communication Apprehension

Chesebro, McCroskey, Atwater, Bahrenfuss, Cawelti, Gaudino, and Hodges (1992), cite Vargelisti and Daly's (1989) report that 25.6% of all of the nation's young

adults can not adequately communicate orally after completing high school or college. Between 10 and 20 percent of the American population suffers from extreme communication apprehension and up to 20 percent more experience moderately high communication apprehension (CA) (McCroskey, 1976).

CA is a broad-based fear or anxiety associated with either real or anticipated communication with another person(s) (McCroskey, 1976). Research identified four types of CA: traitlike, context-based, audience-based and situational (Richmond & McCroskey, 1998). Traitlike CA is the broad based CA that is felt in every situation and is a relatively enduring, personality-type orientation toward a given mode of communication across a wide variety of contexts. Context-based CA is CA that fluxuates depending on the type of communication, such as group, meeting, public speaking or interpersonal communication, and is usually in a particular type of context. Audience based is fear that is rooted in the communication with certain individuals or groups. Finally, situational is CA that is focused on specific situations, has a transitory orientation and is highly fluid. Another area of CA that is frequently looked at as a sub- category is classroom communication apprehension (CCA).

Causes and Roots of Communication Apprehension

Early studies found that CA may be a trait that is learned by the individual (McCroskey, 1976). In his later work, McCroskey (1983) divided the causes of CA into the two areas that he previously defined as trait and state CA. Trait CA causes can be explained as heredity and environment. State or situational CA is caused by the changes in the environment. CA increases in formal settings, novel settings, conspicuousness in

the environment, the degree of familiarity, or the degree of attention and evaluation (McCroskey, 1983).

In a study conducted by Proctor, Douglas, Garera-Izquierdo, and Wartman (1994), four recurring themes emerged when students were asked to identify their reasons for public speaking apprehension. Those were fears of evaluation and criticism, mistakes and failures, attention and isolation, and unfamiliar audiences. Jaasma (1997) echoes this idea when the results of her study indicated that apprehensiveness was based on evaluation, competence and confidence concerns.

Ethnicity was highly predictive of both the proportions of students classified as highly communication apprehensive (HCA's) and the proportion of students being classified as seeing themselves as low in communication competence (Chesebro et al., 1992). This study was supported by later studies that correlated CA and self perceptions. One such study concluded that one of the predictors of students CA is the student's self-perceived public speaking competency (Ellis, 1995). This suggests that as the self-perceived level of competency of the student decreases, his or her CA increases. Another study showed that Asian students and Hispanic non-Mexican students are significantly more apprehensive than white students (Jaasma, 1997).

Ethnicity was not the only demographic factor impacting CA. A study by Jaasma (1997) indicated that female students have higher levels of classroom communication apprehension (CCA) than male students. Ayres and Ayres (1995) reported that CA also is linked to lower economic status, lower academic achievement, and fewer social skills. Dwyer (1998) contradicts those findings in one study, as she found no significant

correlations between CA and age, sex, GPA or year in college. However, she also states, "Non-traditional students who defer taking a required public speaking class as freshmen could be deficient in skills training and therefore become increasingly fearful of communication (in all contexts) as they progress through college." (p.145). Although age might not be a direct factor, skills training might act as a mediating factor causing a decrease in students CA levels.

There are also studies in fields other than speech communication that examine communication behaviors and CA. In the *Journal of Psychology*, Opt and Loffredo (2000) examined interactions between CA and different personality types. Results of the study concluded that introverts scored significantly higher in CA and all of the sub-contexts than extroverts did. The study concluded that "feelers" scored significantly higher on CA then did "thinkers". This may be due to the fact that thinkers lack the emotional involvement in the communication process that the feelers often have.
A 1998 study by Dwyer and Cruz echoed those results; finding that trait and context CA are significantly correlated with introversion and extroversion personality types, as higher levels of CA are correlated with introversion. In that study, they also found that although CA does not contribute to a variance in course grades or grade point average (GPA), personality types do contribute to course grades.

Effects and Correlates of Communication Apprehension

McCroskey (1976) explained the effects of CA impact such issues as choice in housing, choice in occupations, perceptions of self and interactions with others. In addition, other's perceptions of those with high CA include perceptions of being less

attractive, and less credible. McCroskey also states high apprehensives demonstrate less self disclosure, less participation in small group interaction, having fewer dates, and being more likely to date just one person.

HCA have higher college dropout rates than moderate or low CA (McCroskey, Booth-Butterfield, & Payne, 1989). McCroskey et al. state that it appears that CA has the strongest impact on the first two years of college in terms of retention. That conclusion echos earlier work by McCroskey and Payne (1986) which led to the suggestion that the impact of CA might lead to the decision to drop out of college as more of a social choice than for academic reasons. McCroskey and Anderson (1976) found that HCA's scored significantly lower than lower apprehensive students (LCA's) on the ACT, both overall and also in the four individual areas. LCA's had GPA's across all courses that were approximately one half a grade point higher than the HCA's. These results might be partially explained by the study conducted by Messman and Jones-Corley (2001) in which a clear link was demonstrated between CA and cognitive and affective learning. The study found that reduced CA led to increased affective learning, and students who reported increased apprehension showed a decrease in affective learning. Rodriguez, Plax and Kearney (1996) found that increases in affective learning have been shown to cause an increase in cognitive learning.

Studies have shown that there is an inverse relationship between public speaking anxiety and students' self-perceived public speaking competency (Ellis, 1995). This suggests that as high levels of CA decrease, the student's confidence level will increase. These results provide support for the results of later studies. Students who dropped out of

the basic public speaking course had higher CA than students who completed the basic public speaking course (Rubin, Rubin, & Jordan, 1997). Another negative effect of CA is that students who experience apprehension while trying to learn material are at a disadvantage in terms of their ability to assimilate incoming information (Chesebro & McCroskey, 2001). Studies indicate that at-risk students are substantially more apprehensive about communication in dyads or small groups than in other situations (Chesebro et al., 1992).

LCA's score better on cognitive tests and report higher levels of liking towards the basic public speaking course than do HCA's (Messman & Jones-Corley, 2001). Lower test scores experienced by students with high CA can be partially explained by Frymier's (1993a) study on the relationship among CA and motivation to study, in which there was a significant inverse relationship found between a student's level of CA and his or her motivation to study.

Implications and Treatment of Communication Apprehension

In one study comparing pre and post PRCA scores both overall and in the four sub contexts (public speaking, meetings, interpersonal and group contexts) significant reduction in CA was shown to be associated with participation in the basic speaking course (Rubin, Rubin, & Jordan, 1997). Students with high CA showed greater decreases in PRCA scores than the decreases found in low and moderate CA due to the effects of the basic speech course (Rubin, Rubin, & Jordan, 1997). The PRCA-24 (personal report of communication apprehension) developed by McCroskey was called "the most popular measure and most valid of trait-like CA" (Rubin, Palmgreen, & Sypher, 1994, p. 292).

Instructors working with HCA's should practice high immediacy behaviors and create instructional environments that ensure supportive, frequent interactions to assist those with CA (Ellis, 1995). Other studies suggest that teachers should eliminate grading on participation and forced participation in class, as well as allow for voluntary seating choices, and structure the course so that the students receive all necessary information without requiring extra communication (McCroskey, 1976). Robinson (1997) suggests one method for treating CA is for the universities or colleges to provide a special class, section or communication workshop specifically designed to meet the needs of students with high CA. Other suggestions in addition to taking a basic speech course, mentioned by Robinson, include discussion of negative self talk statements, creating a supportive interactive atmosphere, using in-class activities and taking part in relaxation exercises.

Dwyer (1998) reported that adjusting classroom lesson plans to accommodate different students' learning style preferences could reduce anxiety and enhance academic performance. In a later study, Dwyer (2000) cites several established methods for treating communication apprehension in the context of public speaking including: systematic desensitization, deep abdominal breathing, cognitive restructuring, mental rehearsal, visualization, skills training and stress reduction plans. Dwyer's study concluded that skills training in public speaking courses did help to reduce CA, but the multidimensional model had greater impact on reducing CA because it is more tailored to the individual student. The multidimensional model works by focusing on the individual's firing order, the sequence in which the dimensions of CA appear in the individual, and utilizing techniques that will have the greatest impact for the individual

student. This conclusion shows that it is most helpful for the students when techniques are adapted to meet each student's specific needs.

Ayres, Heuett & Ayres-Sonandre (1998) studied the impact of visualization on CA, and concluded that the largest reductions in CA occurred among those exposed to a treatment modality congruent with their preferred cogitative processing pattern. For individuals who preferred verbal processing, scripted visualization was found most effective; for individuals who preferred imagery processing, pictorial visualization worked best. The most significant finding of the Ayres, Heuett and Ayres-Sonandre (1998) study was that visualization tailored to the participants produced a larger reduction in self-reported CA than non-tailored visualization.

Robinson (1997) found that skills training was the most widely used method of CA reduction (96% of the programs surveyed used this method), followed by cognitive modification (63%), visualization (59%), and using systematic desensitization (25%) as part of the treatment for CA. Seven CA reduction techniques were reported to be used more than 75% of the time by instructors. Those seven techniques were: identifying student's fears as normal, encouraging practicing of speeches, establishing a warm classroom climate, selecting familiar topics, making positive evaluations, becoming audience centered, and encouraging class participation (Robinson, 1997). Ayres and Ayres (1995) found exposure to instructional videos on coping methods reduces CA and negative thinking for high CA "at-risk" youth.

Low and moderate CA's preferred small classes to mass lecture classes, but the exact opposite pattern was found for HCA's (McCroskey & Andersen, 1976). Also

highly apprehensive students may feel their problems compounded by the use of video feedback (Ellis, 1995). Other studies cite the benefits of video feedback. Hinton and Kramer (1998) found that students who used the video tapes reported reductions in their levels of apprehension about speaking, compared to an increase in apprehension by students who did not use the video tapes. The study also stated that those with the most to gain with video taping (low competence and HCA's) reported relatively large improvements, while those with the least to gain (high competence and LCA's) reported limited improvements or even declines (Hinton & Kramer, 1998).

Classroom Climate

MacAulay (1990) states that the quality of a classroom environment may be regarded as a function of the interaction between structure and organization, cognitive processes, student characteristics and teacher characteristics. According to Dwyer, Bingham, Carlson, Prisbell, Cruz, and Fus (2003) research in the fields of communication and education have neglected to study the construct of student to student connectedness in terms of student interactions in the classroom setting.

Dwyer, et al. (2003) define connected classroom climate as "a supportive communication environment in which students feel socially connected through commonalities, experience a sense of community, are mutually concerned about one another, and engage in friendly, respectful, and nonjudgmental behaviors in the classroom" (p. 5).

Past research in the fields of psychology has focused on climate issues, especially in terms of teacher behaviors. Gibb (1960) focused on teacher-student interaction in

terms of defensive communication. Hays (1970), based on the work done by Gibb, focused on teachers as the major factor in effecting classroom climate and developed a measure of classroom climate. Myers and Rocca (2001) focused on the effects of teacher argumentativeness and verbal aggression on classroom climate. Nadler and Nadler (1990) looked at impact of gender on communication in the classroom and found that gender was not as much a factor as teachers' behaviors in explaining the interactions and impact of climate on the classrooms.

Myers (1995), who studied the use of affinity seeking messages and classroom environment with focus on teacher behaviors, found that instructors who use affinity-seeking messages were seen to have classrooms with a more positive classroom climate. Rosenfeld (1983) looked at the interaction between liked and disliked classes and the levels of supportiveness and defensiveness, and concluded that liked classes were described as highly supportive and low to moderately defensive, as one would expect. Rosenfeld (1983) attributed these differences to teacher behaviors alone. Stuart and Rosenfeld (1994) looked at the use of humor as it impacted the classroom climate; they too focused on the teacher as the catalyst for the environment, finding that both the amount and type of instructor humor had an impact on the classroom climate. Lee and Robbins (1995) looked at the students need for belongingness, a construct closely related to the idea of classroom climate, finding that social assurance is closely related to one's reliance on other people and social connectedness is related to one's opinion of self in relation to other people. McGrath, Gutierrez, and Valadez (2000) developed a scale to look at overall social support in the college environment, the CSSSS (the College Student

Social Support Scale), based on individuals' perceptions of potential support and reception of actual supportive behaviors. Malecki and Demaray (2002) developed another scale, the CASSS (the Child and Adolescence Social Support Scale), to look at interactions of perceived social support in the classroom.

Effects

Schmuck (1968) found that peer relations in the classroom and student's perceived group status can have consequences for student's self esteem, attitudes toward school work, and academic achievement. Schmuck stated that students' academic performance was shown to be conditioned by affective contents associated with self concepts that were then influenced by friendships and relations with classmates. Battistich, Solomon, Kim, Watson, and Schaps (1995) found that students' perceptions of community in school were significantly associated with almost all student outcome measures, academic attitudes, social and personal attitudes, and cognitive/ academic performance.

Connected Classroom Climate and Other Variables

In a 1990 study, MacAulay found that classroom behavior of students influences the climate of the learning environment. These results support the claims of other researchers that positive emotional climate is linked to low incidences of disruptive behavior and to greater participation in classroom communication.

Shapiro's (1993) research showed that the difference between a classroom in which students will achieve versus one where they will not is based on the amount of

positive or negative interaction between the individual students, among the class as a whole, and between the class and the teacher.

Carlson, Dwyer, Bingham, Cruz, Prisbell and Fus (2003) looked at the relationship between classroom environment in terms of social support and CA. They found a significant correlation between the Connected Classroom Climate Inventory (CCCI) scores and post-course CA scores measured by the PRCA-24, and its four different sub scales. The group who had the greatest reduction in scores on the PRCA-24 also had the highest scores on the CCCI measure. Also students who had high CA at the end of the semester scored lower on the CCCI then did the students with low CA. Their results also found that students who had high levels of CA but then reduced CA had higher scores on the CCCI measure than students who stayed at a higher level of apprehension.

Immediacy

Instructors' choices in communication can either increase or decrease the distance between student and teacher. Mehrabian (1971) explained the immediacy principle: "People are drawn towards persons and things that they like, evaluate highly, and prefer; and they avoid and move away from things that dislike, evaluate negatively or do not prefer" (p.1).

Richmond, Gorham, and McCroskey (1987) stated that immediacy is characterized by a reduction in physical or psychological distance in teacher-student interaction. Wiener and Mehrabian (1968) define immediacy as the relationship between the speaker and the object he or she communicates about. In other research, immediacy

was defined as the "nonverbal behavior manifestation of high affect" (Anderson, 1979, p.545). Richmond, Gorham, and McCroskey (1987) explain immediacy as behaviors that contribute to perceptual stimulation during interpersonal interaction, such as smiling, the use of movement, or vocal variety. Gorham (1988) concluded that both verbal and nonverbal behaviors impact perceptions of immediacy.

Nonverbal and Verbal Immediacy

Anderson (1979) defined nonverbal immediacy as the "nonverbal behavior manifestation of high affect" (p.545). Gorham (1988) listed several nonverbal immediate behaviors including smiling, vocal expressiveness, teacher movement, and relaxed body position. Gorham found that verbal immediacy drops sharply as a function of class size while nonverbal immediacy seems to be unaffected. Similar to nonverbal immediacy, verbal immediacy includes the behaviors that are verbally communicated and help to reduce psychological distance. Gorham (1988) included several behaviors that indicate verbal immediacy: use of humor, praise, willingness to engage in conversations with students, self-disclosure, asking questions, following up on student initiated topics, referring to the class as "our" or "we" and inviting opportunities to meet out of class time.

Effects and Implications of Immediacy Behaviors

Richmond, Gorham, and McCroskey (1987) found that some nonverbal immediacy behaviors are more important in the classroom than others. Those ranked most important in their study were vocal expressiveness, smiling, and relaxed body

position; less meaningful behaviors included looking at the class instead of notes or the board, and moving around the classroom.

According to Frymier and Houser (2000), students, regardless of their gender, view immediacy skills and behaviors as important skills for their instructors to have. Witt and Wheeless (2001) concluded that if a teacher displays lower levels of nonverbal immediacy but high levels of verbal immediacy, it may become distracting to the students or be perceived as insincere or sarcastic. Christensen and Menzel (1998) concluded that verbal immediacy accounted for twice as much variance in perceived learning and nearly three times as much variance in motivation than did nonverbal immediacy. Also, teachers who were perceived as verbally immediate were rated as teachers that students would like to take again, where as nonverbally immediate teachers were rated as instructors that students liked.

Frymier (1993b) also found that there were significant differences between state motivation and teacher immediacy. Although students' levels of motivation at the beginning of the semester were the greatest single predictor of overall motivation at the end of the semester, when that was ruled out, immediacy played a very significant role.

Student perceptions. Andersen (1979) found that fifty percent of the variance in students' attitudes toward instructors can be accounted for by their perceptions of teacher immediacy. Chaikin, Gillen, Derlega, Heinen and Wilson (1978) published some of the earliest results on the impact of immediacy on student perceptions and concluded that the immediate teacher was rated much higher than the teacher who was more "distant" (p.593).

Rocca and McCroskey (1999) reported that students rate teachers who are more immediate as more similar to themselves in attitude and background. The more immediate teachers are also seen as more interpersonally attractive overall, and in all of the three dimensions of interpersonal attraction: task, physically and socially attractive, and less aggressive than low level immediate teachers (Rocca & McCroskey, 1999). Moore, Masterson, Christophel and Shea (1996) found that students who were expecting higher grades ("A") in the course that they were taking reported significantly higher immediacy ratings for their instructors than those who were expecting lower grades ("C"). They also found that instructors in physical sciences received lower ratings in terms of immediacy then instructors in communication, business, the arts, social science and humanities. Overall, the study concluded that the more immediate the instructors, the higher ratings they received. Wanzer and Frymier (1999) established that there is a significant positive correlation between students' perceptions of teachers' use of humor, socio-communication style and nonverbal immediacy.

Student anxieties. Frymier and Weser (2001) found that there was an inverse relationship between CA in students and their expectations of instructor immediacy behaviors. This implies that students with high CA do not expect their instructors to interact with them personally or that, through the development of lower expectations of instructor immediacy, the students have higher levels of apprehension in communicating. Frymier and Weser (2001) concluded that, "just because a student does not expect a teacher to do something, does not mean that student will not benefit from the behavior" (p.325).

Frymier (1993a) found that in terms of the interaction between CA and teacher immediacy towards motivation that all students were more motivated by the highly immediate teacher regardless of level of CA. However if the teachers displayed low levels of immediacy, the greatest impact was felt by HCA's, who had the lowest motivation as a result of instructors' behaviors. Therefore students with high levels of CA benefit most from the highly immediate teacher in terms of motivation. Also Frymier (1993a) found that verbal immediacy plays a larger role in high CA's motivation than does nonverbal immediacy.

Affective and cognitive learning. Rodriguez, Plax and Kearney (1996) state that no other variable has been shown to be more constantly related to an increase in student learning then teacher immediacy. Richmond, Gorham, & McCroskey (1987) found that moderate level of immediacy is a requirement to positively impact cognitive learning, and that an increase in the level of teacher immediacy after that does not have as great of an impact. Hess and Smythe (2001) found that, although there have been a large number of studies that have found an association between teacher immediacy and perceived levels of cognitive learning, there was no association between students' levels of perceived learning and their test scores.

Frymier and Houser (2000) found a positive association between verbal and nonverbal immediacy with affective learning, learning indicators, and state motivation. They state, "While the lower levels of learning such as recall and comprehension can occur quite easily without the benefit of human interaction, achieving higher levels of

learning such as analysis, synthesis, and evaluation may require interaction between teacher and student." (p.217).

Witt and Wheeless (2001) concluded that high levels of nonverbal immediacy are related to increases in recall, reduction in learning loss and increased affective learning. Another study by Messman and Jones-Corley (2001) found that students who perceived their teachers as more immediate had higher cognitive learning, showed a larger gain in cognitive learning and maintained higher levels of affective learning across time. Chesebro and McCroskey (2001) concluded that the increases in affect or liking for the instructor and course (affective learning) were negatively related to receiver apprehension: "Students with immediate teachers are less likely to experience anxiety when trying to listen to classroom messages." (p.65).

Titsworth (2001a) concluded that, over time, teacher immediacy has a positive effect on retention of specific details learned. In another study, Titsworth (2001b) showed that between multiple variables, teacher immediacy accounted for the main effect on affective learning both immediately and in delayed situations. Plax, Kearney, McCroskey and Richmond (1986) found a positive relationship between teacher immediacy and affective learning.

In terms of teacher immediacy's impact on learning across ethnic groups, Sanders and Wiseman (1990) found multiple results. In White, Asian and Hispanic ethnic groups, teacher immediacy was more predictive of affective learning than behavioral learning. Teacher immediacy was also more predictive in Hispanic students, than for Asian and Black students for affective learning. Finally, the study reported that for Hispanic

students, immediacy was more associated with affective learning than with cognitive learning. Overall, Sanders and Wiseman (1990) concluded that teacher immediacy behaviors enhance students' perceived learning in all categories in the multicultural classroom.

Learning models. The Learning Model as presented by Kelley and Gorham (1988) stated that immediacy is the direct cause of heightened levels of cognitive learning because immediacy draws the students into the material more and gives them more cues to use in learning the material. One example cited was how recall was improved because of increased eye contact, since the eye contact allowed the students and instructors to check for understanding. Rodriguez, Plax and Kearney (1996) found that there was a valid explanation of the impact for teacher immediacy on learning in the Learning Model, however there are some mediating factors.

The Motivation Model (Christophel, 1990) explains the impact of teacher immediacy on learning as the mediating variable of motivation. As the instructor is more immediate, the student is more motivated to perform the given task, and then learning increases. Later testing by Frymier (1994) found that the Motivational Model was a better fit for explaining the impact of teacher immediacy than the Learning Model. Although Frymier (1994) also stated that immediacy behaviors did not account for all of the differences in motivational levels.

The Affective Learning Model, (Rodriguez, Plax and Kearney, 1996) established that the impact of teacher immediacy on the student level of cognitive learning is mediated by the direct impact on student level of affective learning. In testing, the path

of impact that the researchers described through this model was found to have significant impact from one variable to the next.

Statement of Purpose

There have been key developments that have helped to guide CA research from the past to the future. McCroskey in 1976, defined CA, and set forth the general research in CA contexts and types, causes and roots, measures of CA, effects and correlates and implications and treatments. After measures were developed to define CA clearly, and the impact of CA was known, treatment studies followed. High CA can be lowered in the basic public speaking course (Rubin, Rubin, & Jordan, 1997), with highly immediate instructors (Ellis, 1995), with a connected classroom climate (Carlson, Dwyer, Bingham, Cruz, Prisbell & Fus, 2003), making adjustments for individual learning styles (Dwyer, 1998), and utilizing visualization, relaxation, and skills training (Dwyer, 2000: Ayres, Heuett & Ayers-Sonandre, 1998: Robinson, 1997). However the question still remains, is there an interaction between connected classroom climate and verbal and nonverbal teacher immediacy, and if so, how do they combine to impact CA?

Past research by Bingham, Carlson, Dwyer, Prisbell, Cruz and Fus (2004), started to answer this question, as the study also looked at the same three variables. However new nonverbal immediacy scales have since been developed with increased levels of reliability. Also the past work looked at the variable of CA, through the focus of one instrument, the PRCA-24. Bingham et al. (2004) found a significant relationship between nonverbal and verbal teacher immediacy and CA, and a significant relationship also between the nonverbal, verbal immediacy and classroom connectedness. In a

stepwise regression, connected classroom climate was shown to be a predictor of reduction in CA and post-course CA levels. This study is a partial replication of their work.

Research Questions

RQ1- What is the relationship between connected classroom climate and student level of trait and state communication apprehension?

RQ2- What is the relationship between teacher verbal and nonverbal immediacy and student level of trait and state communication apprehension?

RQ3- Does the linear combination of verbal and nonverbal teacher immediacy and student perception of connected classroom climate predict CA?

Methodology

Sample

Participants in this study came from nine sections of the introductory speech course held on a large Midwestern university. Most sections of the course have 26 students enrolled, giving a possible total in excess of 230 participants. However after eliminating all of the participants who had missing data, the number of actual participants was 149. This course is a general education requirement so a variety of majors were represented.

Instruments

To collect data to test the three research questions, the students were given five different scales to complete. Those scales were: McCroskey's (1982) Personal Report of Communication Apprehension 24 (Appendix A), Booth-Butterfield & Gould's (1986) Communication Anxiety Inventory: Form State (Appendix B), Richmond, McCroskey, & Johnson's (2003) Nonverbal Immediacy Scale-Observer Report (Appendix C), Gorham's (1988) Verbal Immediacy Behaviors (Appendix D) and Dwyer, Bingham, Carlson, Prisbell, Cruz and Fus's (2003) Connected Classroom Climate Inventory (Appendix E).

To test trait communication apprehension, McCroskey's Personal Report of Communication Apprehension 24 (PRCA-24) (Appendix A) was used. The PRCA-24 is comprised of four sub-scales that measure different contexts of CA, public speaking, interpersonal, group and meeting, as well as serving as a measure for overall CA. The PRCA-24 has repeatedly been shown to have a reliability of .95 (Frymier, 1993a). Also the students CA was tested with Booth-Butterfield & Gould's Communication Anxiety

Inventory (CAI): Form State (Appendix B) that has been found to have a reliability of .91 (Rubin, Palmgreen & Sypher, 1994).

To test the variable of teacher immediacy, two different scales were used, Richmond, McCroskey, & Johnson's Nonverbal Immediacy Scale-Observer Report (Appendix C), and Gorham's Verbal Immediacy Behaviors (Appendix D). The scale developed by Richmond, McCroskey, & Johnson's has an overall reliability of .92, (Richmond, McCroskey, & Johnson, 2003). Reliability of the Gorham's Verbal Immediacy Behaviors scale was also documented in the sourcebook edited by Rubin, Palmgreen & Sypher (1994) as ranging from .83 to .94, and for the instances where the scale was used for teacher self reports, reliability was .89.

The final variable Connected Classroom Climate is tested with the use of Dwyer, Bingham, Carlson, Prisbell, Cruz and Fus's Connected Classroom Climate Inventory (Appendix E). According to the 2003 study by Dwyer, Bingham, Carlson, Prisbell, Cruz and Fus the 18 item scale had an overall reliability score of .94.

Variables

In the first research question the variables are classroom climate, as measured by Connected Classroom Climate Inventory, and student's level of CA, as measured by the PRCA-24 and the CAI: Form State. In the second research question, the variables are teacher immediacy, measured by two scales- Nonverbal Immediacy Scale-Observer Report, and Gorham's Verbal Immediacy Behaviors, and student's level of CA, as measured by the PRCA-24 and the CAI: Form State. The final research question looked at the interaction of both classroom climate and teacher immediacy on the student's level

of CA. In that third research question, both teacher immediacy and classroom climate are operating as independent variables, and the student's level of CA, and also the changes in the students' level of CA is the dependent variable.

Procedures

The initial test of the PRCA-24 was given to the students at the beginning of the course as a requirement for the course, and was collected from the instructors. The CAI Form State was completed by the students immediately after two of their main speaking assignments in class. Final PRCA-24 was assigned in the course syllabus to be completed during the final week of class. The final PRCA-24 tests were then collected from the instructors. Packets of the remaining three measures, Nonverbal Immediacy Scale-Observer Report, Verbal Immediacy Behaviors, and Connected Classroom Climate Inventory, were distributed to the classes during the final month of the semester. These questionnaires were completed during class time. The instructors read the basic set of instructions to the class assuring them of confidentiality and inviting them to voluntarily participate in a research project that would ultimately help improve the quality of the basic course. Approval from the Institutional Review Board was obtained. (See appendix F).

Tests

The information was analyzed using SPSS. Results of RQ1 were determined by a Pearson r tests and include testing of pre and post PRCA scores and the scores on the CAI. RQ2 was also answered by individual Pearson r tests. With the final research question, looking at the interaction between teacher immediacy and classroom climate on

CA and the changes in these scores, the data was analyzed using a regression analysis to see if CA can be predicted by the combination of teacher immediacy and classroom climate.

Results

Out of the total nine sections of the basic public speaking course, 149 students completed the initial-course PRCA, the post-course PRCA, the initial and secondary CAI: Form State, both immediacy scales and the CCCI.

Means, standard deviations, and reliabilities for all scales are contained in Table 1.

Table 1
Means, Standard Deviations and Reliabilities

Initial Tests	Mean	Standard Deviation	Alpha
PRCA-24	64.79	14.25	0.852
Group Discussions	15.10	4.51	0.662
Meetings	15.68	4.47	0.743
Interpersonal Conversations	14.14	4.26	0.740
Public Speaking	20.20	4.91	0.746
Initial CAI: Form State	44.00	10.39	0.745
Second CAI: Form State	43.67	9.76	0.746
NIS	106.23	10.91	0.878
VIB	66.36	8.41	0.747
CCCI	73.70	9.93	0.952
Post Course Test			
PRCA-24	57.33	15.03	0.891
Group Discussions	13.13	4.42	0.768
Meetings	14.52	4.95	0.811
Interpersonal Conversations	12.54	4.34	0.828
Public Speaking	16.93	4.98	0.782

RQ1- What is the Relationship between Connected Classroom Climate and the Student Level of Trait and State Communication Apprehension?

There are no significant correlations between the CCCI and the initial PRCA-24 or any of the subscales or the CAI scales. There was also no significant correlation between the CCCI and the final PRCA-24, however the correlation approached significance (r=-.15, p=.06). There was one significant correlation between the CCCI and one of the subscales of the PRCA-24, the public speaking subscale (r= -.19, p=.02). See Table 2.

Table2
CCCI Pearson Correlations with PRCA and CAI

Scale	r	p	N
Original PRCA-24 Total	-0.07	0.37	149
Group	-0.03	0.70	149
Meeting	-0.08	0.37	149
Interpersonal Conversations	-0.02	0.81	149
Public Speaking	-0.00	0.96	149
Initial CAI: Form State	-0.08	0.34	138
Second CAI: Form State	-0.11	0.21	138
Final PRCA-24 Total	-0.15	0.06	149
Group	-0.11	0.17	149
Meeting	-0.08	0.34	149
Interpersonal Conversations	-0.13	0.10	149
Public Speaking	-0.19	0.02	149

RQ2- What is the Relationship between Teacher Verbal and Nonverbal Immediacy and the Student Level of Trait and State Communication Apprehension?

There were no significant correlations between the VIB scale and either the initial or the end of the term PRCA-24, or any of its four subscales or the scores on either CAI. There were no significant correlation between the NIS and the first CAI. Significant correlations between the NIS and second CAI, the initial PRCA-24 and the

final PRCA-24 are shown in Table 3. There was a significant correlation between the NIS and second CAI (r=-.18, p=.04, N=138). In testing the NIS against the original PRCA-24 scores, there were significant correlations with the total score (r=-.17, p=.05, N=145), the subscale of meetings (r=-.20, p=.02, N=145), and the subscale of interpersonal conversations (r=-.27, p=.00, N=145). When NIS was tested with the final PRCA-24, several significant relationships appeared. There was a significant relationship between the NIS and the total score on the final PRCA-24 (r=-.23, p=.01, N=145), the subscale of group discussion (r=-.18, p=.03, N=145), the subscale of meetings (r=-.20, p=.02, N=145), and the subscale of interpersonal conversations (r=-.33, p=.00, N=145).

Table 3
NIS and VIB Pearson Correlations with PRCA and CAI

NIS Correlations			
Scale	r	p	N
Original PRCA-24 Total	-0.17	0.05	145
Group	-0.11	0.19	145
Meeting	-0.20	0.02	145
Interpersonal Conversations	-0.27	0.00	145
Public Speaking	0.07	0.43	145
Initial CAI: Form State	0.03	0.70	138
Second CAI: Form State	-0.18	0.04	138
Final PRCA-24 Total	-0.23	0.01	145
Group	-0.18	0.03	145
Meeting	-0.20	0.02	145
Interpersonal Conversations	-0.33	0.00	145
Public Speaking	-0.07	0.42	145
VIB Correlations			
Scale	r	p	N
Original PRCA-24 Total	0.03	0.68	149
Group	0.03	0.71	149
Meeting	-0.04	0.60	149
Interpersonal Conversations	0.01	0.87	149
Public Speaking	0.14	0.08	149
Initial CAI: Form State	-0.02	0.82	138
Second CAI: Form State	-0.11	0.22	139
Final PRCA-24 Total	-0.62	0.45	149
Group	0.01	0.95	149
Meeting	-0.07	0.41	149
Interpersonal Conversations	-0.09	0.26	149
Public Speaking	-0.03	0.70	149

RQ3- Does the Linear Combination of Verbal and Nonverbal Teacher Immediacy and Student Perception of Connected Classroom Climate Predict CA?

With the final research question, the data were analyzed using a regression analysis to see if CA (both trait and state) can be predicted by the combination of teacher immediacy and

classroom climate. CAI change scores were calculated for the students who completed both measures of the CAI (change score= initial CAI – final CAI). The CAI change scores were not able to be predicted by the CCCI, NIS, or VIB. However, there was a significant relationship between the second CAI and the NIS total score (df=133, β=-.180, R^2 =.025). See Table 4.

Table 4
Regression- Second CAI Total Score by NIS

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estim.
1	.180a	0.032	0.025	9.763

a. Predictors: (Constant), NIS

ANOVA (b)

Model	Sum of Squares	df	Mean Square	F	Sig.
1					
Regression	418.878	1	418.878	4.395	.038a
Residual	12580.502	132	95.307		
Total	125999.38	133			

a. Predictors: (Constant), NIS
b. Dependent Variable: second CAI

Coefficients (a)

	Unstandardized Coefficients		Standardized Coefficients		
Model	B	Std. Error	Beta	t	Sig.
1					
(Constant)	60.462	8.121		7.446	0.000
NIS	-0.159	0.076	-0.18	-2.096	0.038

a. Dependent Variable: second CAI

PRCA-24 total and subscale change scores were calculated for the students who completed both measures of the PRCA-24 (change score= initial PRCA-24 – final PRCA-24). PRCA-24 total change scores and change scores on the PRCA-24 meetings,

interpersonal, and group subscales could not be predicted by NIS, VIB, or CCCI. The PRCA-24 public speaking subscale change scores could be predicted by the CCCI (df=143, β=.196, R^2 =.032) (see Table 5), but not by the NIS or VIB.

Table 5
Regression- Change in PRCA-24 Public Speaking Score by CCCI

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estim.
1	.196a	0.039	0.032	4.799

a. Predictors: (Constant), CCCI

ANOVA (b)

Model	Sum of Squares	df	Mean Square	F	Sig.
1					
Regression	131.004	1	131.004	5.688	.018a
Residual	3270.489	142	23.032		
Total	3401.493	143			

a. Predictors: (Constant), CCCI
b. Dependent Variable: PRCA-24, public speaking change score

Coefficients (a)

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
1					
(Constant)	-6.563	1.443		-4.549	0.000
CCCI	0.096	0.040	0.196	2.385	0.018

a. Dependent Variable: PRCA-24, public speaking change score

In terms of final PRCA-24 scale and subscale scores for student levels of CA, the NIS could predict final PRCA-24 total score (df=143, β=-.238, R^2 =.050), and PRCA-24 final subscales of group (df=143, β=-.204, R^2 =.035), meeting (df=143, β=-.212, R^2 =.038), and interpersonal conversations (df=143, β=-.334, R^2 =.105). See Tables 6-9.

Table 6
Regression- Final PRCA-24 Total Score by NIS

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estim.
1	.238a	0.057	0.050	14.661

a. Predictors: (Constant), NIS

ANOVA (b)

Model	Sum of Squares	df	Mean Square	F	Sig.
1					
Regression	1833.725	1	1833.725	8.532	.004a
Residual	30520.435	142	214.933		
Total	32354.160	143			

a. Predictors: (Constant), NIS
b. Dependent Variable: PRCA-24 final

Coefficients (a)

	Unstandardized Coefficients		Standardized Coefficients		
Model	B	Std. Error	Beta	t	Sig.
1					
(Constant)	92.354	12.064		7.656	0.000
NIS	-0.330	0.113	-0.238	-2.921	0.004

a. Dependent Variable: PRCA-24, final

Table 7
Regression- Final PRCA-24 Group Score by NIS

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estim.
1	.204a	0.042	0.035	4.347

a. Predictors: (Constant), NIS

ANOVA (b)

Model	Sum of Squares	df	Mean Square	F	Sig.
1					
Regression	116.682	1	116.682	6.175	.014a
Residual	2683.255	142	18.896		
Total	2799.937	143			

a. Predictors: (Constant), NIS
b. Dependent Variable: PRCA-24, group final score

Coefficients (a)

	Unstandardized Coefficients		Standardized Coefficients		
Model	B	Std. Error	Beta	t	Sig.
1					
(Constant)	22.030	3.577		6.159	0.000
NIS	-0.083	0.033	-0.204	-2.485	0.014

a. Dependent Variable: : PRCA-24, group final score

Table 8
Regression- Final PRCA-24 Meeting Score by NIS

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estim.
1	.212a	0.045	0.038	4.895

a. Predictors: (Constant), NIS

ANOVA (b)

Model	Sum of Squares	df	Mean Square	F	Sig.
1					
Regression	160.071	1	160.071	6.682	.011a
Residual	3401.929	142	23.957		
Total	3562.000	143			

a. Predictors: (Constant), NIS
b. Dependent Variable: PRCA-24, meetings final score

Coefficients (a)

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
1					
(Constant)	24.857	4.028		6.172	0.000
NIS	-0.097	0.038	-0.212	-2.585	0.011

a. Dependent Variable: PRCA-24, meetings final score

Table 9
Regression- Final PRCA-24 Interpersonal Score by NIS

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estim.
1	.334a	0.111	0.105	4.115

a. Predictors: (Constant), NIS

ANOVA (b)

Model	Sum of Squares	df	Mean Square	F	Sig.
1					
Regression	301.299	1	301.299	17.792	.000a
Residual	2404.674	142	16.934		
Total	2705.972	143			

a. Predictors: (Constant), NIS
b. Dependent Variable:PRCA-24, interpersonal final score

Coefficients (a)

	Unstandardized Coefficients		Standardized Coefficients		
Model	B	Std. Error	Beta	t	Sig.
1					
(Constant)	26.696	3.386		7.884	0.000
NIS	-0.134	0.032	-0.334	-4.218	0.000

a. Dependent Variable: PRCA-24, interpersonal final score

The fourth subscale of the PRCA-24, public speaking was also able to predicted, but this subscale was significantly predicted by student perceptions of classroom climate (the CCCI), (df=143, β=.196, R^2 =.032). See Table 10.

Table10
Regression- Final PRCA-24 Public Score by CCCI

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estim.
1	.196a	0.038	0.032	4.84

a. Predictors: (Constant), CCCI

ANOVA (b)

Model	Sum of Squares	df	Mean Square	F	Sig.
1 Regression	133.005	1	133.005	5.677	.019a
Residual	3326.821	142	23.428		
Total	3459.826	143			

a. Predictors: (Constant), CCCI
b. Dependent Variable: PRCA-24, public speaking final score

Coefficients (a)

	Unstandardized Coefficients		Standardized Coefficients		
Model	B	Std. Error	Beta	t	Sig.
1 (Constant)	13.579	1.455		9.332	0.001
CCCI	0.097	0.041	0.196	2.383	0.019

a. Dependent Variable: PRCA-24, pubic speaking final score

Discussion

The purpose of this study was to look at the interaction among teacher immediacy, connected classroom climate and communication apprehension, and see if any significant relationships exist. There were three research questions developed to address the issue.

Research Question 1 looked at the relationship between connected classroom climate and the student's level of trait and state communication apprehension. It was found that there were no significant relationships between the initial PRCA-24, any of its subscales, the CAI scales, and the CCCI. However a significant relationship did exist between the CCCI and one of the final PRCA-24 subscales, public speaking, and a relationship approaching significance ($p=.06$) between the CCCI and the final PRCA-24. The lack of significance between CAI and CCCI scores, suggests that the classroom climate has little impact on the students' level of state communication apprehension. The present study's findings also suggest that connected classroom climate mostly impacts students' level of communication apprehension in terms of public speaking.

Research Question 2 looked at the relationship between teacher verbal and nonverbal immediacy and student level of trait and state communication apprehension. There were no significant correlations between the VIB and any of the scales. Significant relationships did exist between the NIS and the second CAI, both PRCA-24 and some of the subscales. With the initial PRCA-24, there was a significant relationship with the meetings and interpersonal conversations subscales. The final PRCA-24 showed

significant relationships on the group discussions, meetings and interpersonal conversations.

This suggests that instructor level of nonverbal immediacy creates greater impact on the students than instructor level of verbal immediacy. Also over the course of a semester, the findings suggest that nonverbal immediacy will impact students' levels of state communication apprehension. The implication of the present study is that nonverbal immediacy is related to trait communication apprehension as well.

The relationship between the initial PRCA-24 and the subscales in meetings and interpersonal is puzzling. Could student level of communication apprehension in those areas impact perceptions of the instructor's level of nonverbal immediacy? The significant relationship between the NIS and the score on the final PRCA-24 subscale of group discussion suggests that instructor level of nonverbal immediacy may impact student apprehension in group discussions.

The final research question looked at the interaction between connected classroom climate and teacher verbal and nonverbal immediacy on the changes in the student's level of trait and state communication apprehension and also their final PRCA-24 scores. There were no significant interactions between the change scores of the students' levels of trait and state communication apprehension and either measure of teacher immediacy. The only significant interaction between the change scores was with connected classroom climate on the change in the student's level of communication apprehension in the public speaking subscale.

The final score on the PRCA-24 and the final scores in the subscales of group discussion, meetings, and interpersonal conversations, all were able to be predicted by the total score on the nonverbal immediacy scale. On the final PRCA-24 the subscale of public speaking was able to be predicted by the score on the CCCI.

In looking at these results compared to the Bingham et al. (2004) study, there were some apparent differences. Bingham et al. found an inverse correlation between the both immediacy variables and the final scores in the PRCA-24 subscales of both group discussion and interpersonal conversations. In this study, there were no significant correlations with the verbal immediacy scores, but the nonverbal immediacy scores had significant inverse correlations with the final PRCA-24 score, and the subscales of group discussion, meetings and interpersonal conversation. Also in the Bingham et al. study, the researchers were able to predict the final PRCA-24 and the change in PRCA-24 scores by the score on the CCCI. In this study, the only scores that were able to be predicted with the CCCI, were the scores on the final PRCA-24 subscale of public speaking and the change in scores on PRCA-24 subscale of public speaking. There was no predictive value to the CCCI in terms of the final PRCA-24 total score.

Conclusions

Implications

The results of this study suggest that students' perceptions of connected classroom climate more directly influence CA in the public speaking context than any of the other examined variables. Therefore a key focus in reducing CA in public speaking should be fostering a connected classroom climate.

Working to build greater sense of connected classroom climate should be the goal of both instructors in their individual classes to reduce student levels of public speaking CA, and the university because lower levels of CA have been shown to be beneficial in retention issues (McCroskey, Booth-Butterfield, & Payne, 1989). In the classroom, instructors can choose to incorporate more group and team activates that would give students a chance to build relationships through interactions which foster connected classroom climate. In the classroom, instructors need to focus on establishing a secure, supportive, and cooperative learning space, so that students are more open to communication. Colleges and universities could create learning groups or freshman cohorts which would allow students to have the same peers in multiple classes each semester and present opportunity for development of positive student to student climate.

Also nonverbal teacher immediacy appears to impact CA and should be researched more to identify specific behaviors that have the greatest positive impact on reducing CA. Nonverbal immediacy was the only variable that had any significant interaction with state/ situational CA. In terms of instructor behaviors, instructors should utilize this knowledge and increase levels of nonverbal immediacy especially around the

time of situations that cause increased CA such as group presentations, speeches, or when calling on individual students.

The relationship between student perceptions of teacher nonverbal immediacy and pre and post course CA leads to question the causality of the relationship. Does teacher nonverbal immediacy help to reduce student CA, or does the student level of CA impact perceptions of instructor behaviors?

Limitations and Future Research

With the small number of respondents who completed the entire set of surveys the generaliziblity of this research is limited. This study should be expanded to larger groups. With the study expanded, there could also be a better understanding as to why there were differences in the results of this study and the 2004 Bingham et al. study. By expanding the study to a larger group, one could eliminate the possibility of small sample size causing the difference in results. When this study is expanded, it also needs to be tested in different environments, to see if the same results would be obtained, as this study and the Bingham et al. study both used the same university population for the sample.

The sample used in this study also is a limitation to the generalizability of the results because the introductory public speaking sections used were not randomly selected from the total population of sections. All of the instructors in the sections selected were graduate teaching assistants, who received extra training on teaching methods. All of the instructors also received high student evaluations, a factor previously shown to be related to immediacy (Moore, Masterson, Christophel and Shea,

1996). The sections selected were also predominantly morning sections. The study should be retested with a random sample of instructors so that greater generalizability would be achieved.

Also there is a need to retest this study in order to find the impact of these measures in courses that are not focused on public speaking. This study was completed with only focusing on a limited number of sections of the basic public speaking course during one semester at one university. By expanding the limits that those methodological choices placed on the study, the generalizability of the study would then be expanded. Would connected classroom climate hold only an impact on the change in the context of public speaking CA or the final PRCA-24 sub scale of public speaking, if the course did not focus on public speaking? If this same study was taken into other classes, even communication classes that are not as focused on presentations, one might get a better view of the impact and interaction of the connected classroom climate and teacher immediacy on all areas of CA.

Future research needs to look closer at causality of the relationships between nonverbal and verbal teacher immediacy, connected classroom climate and CA. Studies should be done to test if student levels of CA can be found to predict perceptions of instructor level of immediacy or perceptions of classroom climate. Also research should reexamine the verbal immediacy scales. This study should be replicated to see why there was no effect found with verbal immediacy, when past research has established the impact of verbal immediacy on CA. Longitudinal research on these variables would be

useful in telling what variables hold the most impact and hold that impact for the longest time.

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Appendices

Appendix A

Personal Report of Communication Apprehension 24

This instrument is composed of twenty-four statements concerning feelings about communicating with others. Please indicate the degree to which each statement applies to you by marking whether you:

Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
1	2	3	4	5

_____1. I dislike participating in group discussions.

_____2. Generally, I am comfortable while participating in group discussions.

_____3. I am tense and nervous while participating in group discussions.

_____4. I like to get involved in group discussions.

_____5. Engaging in a group discussion with new people makes me tense and nervous.

_____6. I am calm and relaxed while participating in group discussions.

_____7. Generally, I am nervous when I have to participate in a meeting.

_____8. Usually, I am comfortable when I have to participate in a meeting.

_____9. I am very calm and relaxed when I am called upon to express an opinion at a meeting.

_____10. I am afraid to express myself at meetings.

_____11. Communicating at meetings usually makes me uncomfortable.

_____12. I am very relaxed when answering questions at a meeting.

_____13. While participating in a conversation with a new acquaintance, I feel very nervous.

_____14. I have no fear of speaking up in conversations.

_____15. Ordinarily I am very tense and nervous in conversations.

_____16. Ordinarily I am very calm and relaxed in conversations.

_____17. While conversing with a new acquaintance, I feel very relaxed.

_____18. I'm afraid to speak up in conversations.

_____19. I have no fear of giving a speech.

_____20. Certain parts of my body feel very tense and rigid while giving a speech.

_____21. I feel relaxed while giving a speech.

_____22. My thoughts become confused and jumbled when I am giving a speech.

_____23. I face the prospect of giving a speech with confidence.

_____24. While giving a speech, I get so nervous I forget facts I really know.

SCORING:

Group discussion: 18 + (scores for items 2, 4, & 6) – (scores for items 1,3, & 5)
Meetings: 18 + (scores for items 8, 9, & 12) – (scores for items 7, 10, & 11)
Interpersonal: 18 + (scores for items 14, 16, & 17) – (scores for items 13, 15, & 18)
Public Speaking: 18 + (scores for items 19, 21, &23) – (scores for items 20, 22, &24)

Group Discussion Score: _____ Interpersonal Score: _____
Meetings Score: _____ Public Speaking Score: _____

To obtain your total score for the PRCA, simply add your sub scores together. _____

Scores can range from 24-120. Scores below 51 represent people who have very low CA. Scores between 51-80 represent people with average CA. Scores above 80 represent people who have high levels of trait CA.

NORMS FOR THE PRCA 24

	Mean	Standard Deviation	High	Low
For Total Score	65.6	15.3	> 80	< 51
Group:	15.4	4.8	> 20	< 11
Meeting:	16.4	4.2	> 20	< 13
Dyad (Interpersonal):	14.5	4.2	> 18	< 11
Public:	19.3	5.1	> 24	< 14

Source:
McCroskey, J. C. (1982). *An introduction to rhetorical commun*ication (4th Ed). Englewood Cliffs, NJ: Prentice-Hall.

Appendix B

Communication Anxiety Inventory: Form State

Instructions: The following items describe how people communicate in various situations. Choose the number from the following scale that best describes how you felt during the communication experience you just completed.

Not at all Somewhat Moderately so Very much so
1 2 3 4

_____1. I felt tense and nervous.
_____2. I felt self-confident while talking.
_____3. While talking, I was afraid of making an embarrassing or silly slip of the tongue.
_____4. I worried about what others thought of me.
_____5. I felt calm when I was talking.
_____6. I felt ill at ease using gestures when I spoke.
_____7. I could not think clearly when I spoke.
_____8. My listener(s) seemed interested in what I had to say.
_____9. I felt poised and in control while I was talking.
_____10. My body felt tense and stiff while I was talking.
_____11. My words became confused and jumbled when I was speaking.
_____12. I felt relaxed when I was talking.
_____13. My fingers and hands trembled when I was speaking.
_____14. I felt I had nothing worthwhile to say.
_____15. I had a "deadpan" expression on my face when I spoke.
_____16. I found myself talking faster or slower than usual.
_____17. While speaking, it was easy to find the right words to express myself.
_____18. I felt awkward when I was talking.
_____19. My heart seemed to beat faster than usual.
_____20. I maintained eye contact when I wanted to.

Note: Reverse coding on Items 2, 5, 8, 9, 12, 17, and 20 before summing

Source:

Booth-Butterfield, S., & Gould, M. (1986). The Communication Anxiety Inventory: Validation of state- and context- communication apprehension. *Communication Quarterly, 34*, 194-205.

Appendix C
Nonverbal Immediacy Scale-Observer Report

Directions: The following statements describe the ways some people behave while talking with or to others. Please indicate in the space at the left of each item the degree to which you believe the statement applies to your teacher. Please use the following 5-point scale.
Use this scale: never = 1, rarely =2, occasionally = 3, often = 4, and very often = 5.

_____1. I use my hands and arms to gesture when talking to people
_____2. I touch others on the shoulders or arm while talking to them.
_____3. I use a monotone or dull voice while talking to people.
_____4. I look over or away from others while taking to them.
_____5. I move away from others when they touch me while we are talking.
_____6. I have a relaxed body position when I talk to people.
_____7. I frown while talking to people.
_____8. I avoid eye contact while talking to people.
_____9. I have a tense body position while talking to people.
_____10. I sit close or stand close while talking to people.
_____11.My voice is monotonous and dull when I talk to people.
_____12.I use a variety of vocal expressions when I talk to people.
_____13. I gesture when I talk to people
_____14. I am animated when I talk to people.
_____15. I have a bland facial expression when I talk to people.
_____16. I move closer to people when I talk to them.
_____17. I look directly at people when I talk to them.
_____18. I am stiff when I talk to people.
_____19. I have a lot of vocal variety when I talk to people.
_____20. I avoid gestures when I talk to people.
_____21. I lean toward people when I talk to them.
_____22. I maintain eye contact with people when I talk to them.
_____23. I try not to sit or stand close to people when I talk to them.
_____24. I lean away from people when I talk to them.
_____25. I smile when I talk to people.
_____26. I avoid touching people when I talk to them.

Scoring for NIS-O
STEP 1: Start with a score of 78. Add the scores from the following items:
1, 2, 6, 10, 12, 13, 14, 16, 17, 19, 21, 22, and 25.
STEP 2: Add the scores from the following items:
3, 4, 5, 7, 8, 9, 11, 15, 18, 20, 23, 24, and 26.
Total score= Step 1 minus Step 2

Source:
Richmond, V.P., McCroskey, J.C. & Johnson, A.D. (2003). Development of the Nonverbal Immediacy Scale (NIS): Measures of Self- and Other-Perceived Nonverbal Immediacy. *Communication Quarterly, 51*, 504-517.

Appendix D

Verbal Immediacy Behaviors

Instructions: Below is a series of descriptions of things some teachers have been observed saying in some classes. Please respond to the items in terms of the way that you perceive your teacher communicating towards you or others in your class. For each item, indicate how often your teacher responds this way when teaching. Use this scale: never = 0, rarely = 1, occasionally = 2, often = 3, and very often = 4.

_____1. Uses personal examples or talks about experiences she/he has had outside of class.
_____2. Asks questions or encourages students to talk.
_____3. Gets into discussions based on something a student brings up even when this doesn't seem to be part of his/her lecture plan.
_____4. Uses humor in class.
_____5. Addresses students by name.
_____6. Addresses me by name.
_____7. Gets into conversations with individual students before or after class.
_____8. Has initiated conversations with me before, after or outside of class.
_____9. Refers to class as "our" class or what "we" are doing.
_____10. Provides feedback on my individual work through comments on papers, oral discussion, ect.
_____11. Calls on students to answer questions even if they have not indicated that they want to talk.
_____12. Asks how students feel about an assignment, due date or discussion topic.
_____13. Invites student to telephone or meet with him/her outside of class if they have questions or want to discuss something.
_____14. Ask questions that solicit viewpoints or opinions.
_____15. Praises students' work, actions or comments.
_____16. Will have discussions about things unrelated to class with individual students or with the class as a whole.
_____17. Is addressed by his/her first name by the students.

Note- Item 11 is nonimmediate. Coding should be reversed before summing.

Source:

Gorham, J. (1988). The relationship between verbal teacher immediacy behaviors and student learning. *Communication Education, 37*, 40-53.

Appendix E

Connected Classroom Climate Inventory

This instrument is composed of eighteen statements concerning feelings about your class. Please indicate the degree to which each statement applies to you by marking whether you:

Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
1	2	3	4	5

____1. I feel a sense of security in my class.

____2. I have common ground with my classmates.

____3. I feel a strong bond with my classmates.

____4. The students in my class share stories and experiences with one another.

____5. The students in my class are friendly with one another.

____6. The students in my class respect one another.

____7. I feel included in class discussions in my class.

____8. The students in my class are courteous with one another.

____9. The students in my class praise one another.

____10.The students in my class are concerned about one another.

____11.The students in my class smile at one another.

____12.The students in my class engage in small talk with one another.

____13.The students in my class are non-judgmental with one another.

____14.The students in my class laugh with one another.

____15.The students in my class are supportive of one another.

____16.The students in my class show interest in what one another are saying.

____17.The students in my class cooperate with one another.

____18.The students in my class feel comfortable with one another.

Source:

Dwyer, K.K., Bingham, S.G., Carlson, R.E., Prisbell, M., Cruz, A.M., & Fus, D.A., (2003). Communication and connectedness in the classroom: Development of the connected classroom climate inventory. Paper presented at the Central States Communication Association Conference, April 11th 2003.

University of Nebraska Medical Center

NEBRASKA'S HEALTH SCIENCE CENTER

Appendix F

IRB Approval

Institutional Review Board (IRB)
Office of Regulatory Affairs (ORA)

March 15, 2004

Katherine Denker
Communication, ASH 107
UNO - VIA COURIER

IRB#: 074-04-EX

TITLE OF PROTOCOL: Relationship Between Connected Classroom Climate and Teacher Verbal and Nonverbal Immediacy and Trait and State Communication Apprehension

Dear Ms. Denker:

The IRB has reviewed your Exemption Form for the above-titled research project. According to the information provided, this project is exempt under 45 CFR 46:101b, category 1 and 2. You are therefore authorized to begin the research.

It is understood this project will be conducted in full accordance with all applicable sections of the IRB Guidelines. It is also understood that the IRB will be immediately notified of any proposed changes that may affect the exempt status of your research project.

Please be advised that the IRB has a maximum protocol approval period of three years from the original date of approval and release. If this study continues beyond the three year approval period, the project must be resubmitted in order to maintain an active approval status.

Sincerely,

Ernest Prentice, PhD/GDK

Ernest D. Prentice, Ph.D.
Co-Chair, IRB

EDP/gdk

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