LEARNER-TO-LEARNER: REFOCUSING THE LENS OF

EDUCATIONAL IMMEDIACY

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As the current body of instructional communication research focuses primarily on the relationship between teacher and learner, three studies investigating the relationship between learners were completed in order to better understand how student motivation and learning are influenced by learner-to-learner immediacy behaviors within the college classroom environment. Study I resulted in an extensive list of both positive and negative verbal and nonverbal immediacy behaviors commonly used by learners. Study II required the comparison of the behaviors identified in study one to existing measures of teacher to learner immediacy behaviors, producing a new measure focusing on learner-to-learner immediacy. Following a pilot survey, the reliability of this new measure was determined through face validity and factor analysis, producing the Learner-to-Learner Immediacy Behavior Scale. In Study III, the Learner-to-Learner Immediacy Behavior Scale was combined with Christophel’s 1990 Immediacy Behavior Scale, Cognitive Learning Scale, Affective Learning Scale, and Trait and State Motivation Scales and administered to 273 undergraduate students to test the affects of common learner-to-learner immediacy behaviors on student state motivation, affective learning, and perceptions of cognitive learning loss. Multiple regression analyses indicated learner-to-learner immediacy as functioning similarly to teacher-to-student immediacy when mediated through state motivation in its influence on student affective learning and perceptions of cognitive learning loss.
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CHAPTER 1
INTRODUCTION

The existent body of research in the instructional communication field is both broad and deep, covering myriad varieties of information valuable and vital to the discipline. Since its inception in the early 1970s, researchers in this field have tirelessly investigated the role of teacher in the traditional classroom (Sprague, 1993). A prominent focus of much of this research is in the area of teacher immediacy, which examines the effects of teaching practices and behaviors on student learning outcomes (Andersen, 1979). Outside educational constructs, immediacy refers to the psychological relationship between the sender and receiver of a communicative act (Wiener and Mehrabian, 1968). Extensive research exists concerning the verbal and nonverbal immediacy behaviors enacted by teachers when communicating with students in the classroom environment (Andersen, Norton, & Nussbaum, 1981; Christophel, 1990; Richmond, Gorham, & McCroskey, 1987; Rodriguez, Plax, & Kearney, 1996), as well as how these behaviors affect the overall classroom environment (Myers, Mottet, & Martin, 2000; Plax & Kearney, 1990; Titsworth, 2004; Witt & Wheeless, 2001).

Recently, Frymier (2005) advocated the need of future research to include student interactions within the scope of immediacy studies, hypothesizing students who reported “engaging in increased levels of interaction involvement, assertiveness, responsiveness, and out-of-class communication with their instructor” (p. 202) would also report greater affective learning, greater motivation to study, and greater satisfaction with their instructors. Student interactions and immediacy behaviors between learners in the classroom setting, or learner-to-learner immediacy, are those behaviors enacted by students while communicating with other students that contribute to the perceived physical or psychological closeness between learners.
Communication and education scholars have conducted extensive research concerning student interactions in the form of peer influence studies (Biddle, Bank, & Marlin, 1980; Femlee, Eder, & Tsui, 1985; Smerdon, 2002; Werner-Wilson & Arbel, 2000; Zimmer & Toma, 2000). Peer influence among students of all ages is a powerful factor in shaping students’ attitudes towards family, friends, and learning (Shin, Daly, & Vera, 2007). Peer influence can be positive or negative, and is a dominant force in any classroom.

In order to establish learner-to-learner immediacy as a valid immediacy construct, I employed three studies to create a quantitative measure of student classroom immediacy behaviors and the affects thereof on student state motivation and student cognitive and affective learning. My goal in Study I was the identification and classification of commonly used learner-to-learner verbal and nonverbal immediacy behaviors. For Study II, I developed an immediacy scale measuring the behaviors identified in Study I to confirm the results of my qualitative research. I modeled this scale on Christophel’s (1990) combination of Richmond et al.’s (1987) Nonverbal Immediacy Scale and Gorham’s (1988) Verbal Immediacy Scale, modifying the teacher-to-student approach by substituting learner-to-learner as the communication measured and eliminating those items applicable only to teacher-to-student interaction. I then added any learner-to-learner specific behaviors identified through my field observations or reported by students in Study I, resulting in a scale measuring learner-to-learner immediacy behaviors commonly enacted in the college classroom. This scale allows a quantitative approach similar to those employed by researchers focusing on teacher-to-student immediacy behaviors. Following this, I conducted a pilot survey to test the format of my newly developed Learner-to-Learner Immediacy Behavior Scale and to determine reliability of the items included therein. In Study
III, I validated the scale created in Study II by applying it to test the affects of learner-to-learner immediacy behaviors on student learning outcomes.

Previous researchers (Andersen, 1979; Christophel, 1990; Frymier, 1994; Gorham, 1988) have made great strides in understanding the affects of teacher behaviors on student state motivation and student cognitive and affective learning, but have been woefully remiss in exploring immediacy beyond the confines of the traditional approach to education, which casts teachers as the senders of information and students in the passive role of receiver. In traditional educational environments, student learning follows the process-product model of education. Freire (2000) terms this model the “banking concept of education” (p. 72), depicting students as receivers and depositories of information, rather than active participants in a co-creation of knowledge. Teachers pass preexisting, predetermined sets of knowledge onto the student in a one-way transfer of information. The student has little or no ownership of the information and does little to add new knowledge to the set. In this model, students often memorize and regurgitate facts in a simulation of learning, but rarely do they reach higher levels of critical thinking, such as the ability to analyze, synthesize, and evaluate (Bloom, 1956). In contrast, collaborative education attempts to reverse this disservice by allowing the students to co-create knowledge with their teachers and each other (Dewey, 1938). Students, by expressing their thoughts and ideas, offer insights from their subjective understanding of the world around them. The capable teacher uses these clues to better teach her students, thereby expanding her own understanding of what it means to be an educator.

Merely illuminating the differences between traditional and collaborative learning environments is not enough, however, in the pursuit of refocusing the lens of educational immediacy beyond teacher behaviors. To truly bring about such a shift, it is necessary to be
aware of how educational models respond to change. Once such understanding is garnered, it then becomes possible to establish foundational research supporting learners as co-creators of knowledge (Freire, 2000). Ultimately I argue in this project that the traditional educational structure has become too static and seek to provide support for alternative learning environments.

In order for students to learn at their peak, they must first feel motivated to learn (Brophy, 1986; Frymier, 1994), and this motivation may be difficult to achieve if students feel no ownership or responsibility for their own learning (Freire, 2000). Student motivation to learn may be either Trait (generalized) or State (specific) (Brophy, 1983). A student may have trait motivation towards learning if he feels learning is important for its own sake or that learning must be pursued in order to achieve a certain status within society. A student may have state motivation if he is interested in the specifics of a given learning situation, be they the course material or classroom environment (Brophy, 1986). Frymier (1994) sought to establish a causal relationship between teacher immediacy and student learning by way of student motivation as mediator between the two. The researcher set as a secondary goal of her research the impact of both trait and state motivation on learning, developing two models to explore the effects thereof: the learning model and the motivation model. The learning model suggests trait motivation affects state motivation which in turn affects student learning, and the motivation model suggests trait motivation and verbal and nonverbal immediacy affect state motivation, which then affects student learning. In both models, Frymier posited teacher immediacy behaviors as acting independently of student motivation, yet ultimately found student state motivation as mutable by teach immediacy behaviors, supporting the motivation model. Frymier cited Keller’s (1979, 1983, 1987) ARCS model of motivation to explain her results, asserting that through immediacy behaviors, teachers are able to arouse interest in and gain attention from students.
Only limited research (Frymier 2005), however, exists concerning the immediacy behaviors between peers and the effects of said behaviors on the learning environment. Thus, the goal of this project was the identification of commonly used learner-to-learner immediacy behaviors and the affects of said behaviors on student state motivation and student cognitive and affective learning. Included in the results of this project are the ways in which learner-to-learner immediacy behaviors mimic teacher-to-student immediacy, as well as any ways in which learner-to-learner immediacy diverges from established behaviors and adds new interactions to the overall construct of immediacy.
CHAPTER 2

REVIEW OF LITERATURE

The institution of education exists to provide learning and skill sets to students of all ages and races, cultures and credos. Teachers are charged with educating students in every imaginable subject or discipline, and often serve as role models or mentors to those they teach. Throughout history, a passionate debate has raged over the best, most effective ways to teach students, and no apparent answer to this monumental question has been found. Some scholars and educators advocate a traditional approach to education, where teachers open to students vast stores of previously constructed morsels of knowledge. Others argue in favor of a more social approach to learning, where teachers and students work together to discover and generate educative experiences. In the following review, these approaches will be examined and critiqued to demonstrate the extreme discrepancies between the two and highlight the need for a shift from the traditional approach to learning to more collaborative educational environments.

Models and Approaches

Process-Product Approach

Traditional educational settings function using a process-product model of communication, with teachers providing static sets of information to their students. Freire (2000) terms this model the “banking concept of education” (p. 72), where students passively receive, store, and catalog information given them by teachers and have no agency in directing their own journey towards learning (see Appendix A). When students are relegated as empty repositories for information supplied only by the instructor, they are, in effect, oppressed. In his discussion regarding the freedom of the oppressed from their conditions of oppression, Freire discusses the
importance of praxis, saying it is “the reflection and action which truly transform[s] reality [and] is the source of knowledge and creation” (p. 100). As a disempowered group, students in the banking concept of education are not fully human because they are not wholly, or even in part, in control of their learning experience.

Based on autocratic principles, traditional education functions in a state of order without freedom (Evans, 1990). Dewey (1938) explains the restriction of freedom in the traditional educational setting by describing students in row after rigid row of desks, unable to interact with their environment, permitted movement only by the authoritarian teacher. Conversely, when a teacher allows students freedom of movement, this leads to heightened awareness and understanding of one’s surroundings. This growth in experience causes the individual to become more knowledgeable. When freedom of movement is restricted or suspended, potential knowledge is diminished, and freedom of intelligence is obstructed (Dewey). Under these circumstances, educational professionals measure student cognitive learning through students’ successful memorization and regurgitation of predetermined facts.

Barr and Tagg (1995) expand upon the traditional approach to learning, terming it the ‘Instruction Paradigm.’ Under it, instructors are viewed as the source of education, primarily through lecture, rather than as producers of learning. Educators serve to deliver knowledge rather than share in its creation, and students are therefore deprived of the opportunity to direct their own educations beyond perhaps choosing which classes they will take. Student success is judged not on the power, efficacy, and level of learning experienced and achieved, but through comparison to other students. According to the Bloom’s taxonomy of educational objectives (Bloom, 1956), there are six levels within the cognitive learning domain: knowledge, comprehension, application, analysis, synthesis, and evaluation. Knowledge, the lowest level,
consists of merely recognizing and remembering information, whereas the synthesis and evaluation levels facilitate more complex learning situations, such as value judgments and a creation of new knowledge. Traditional environments focus primarily on the lower levels of learning, emphasizing descriptions or recall of facts over insight and reflection - breadth of knowledge over depth (Werner, 2007). Student achievement of the upper levels requires a more experiential learning environment than is necessary for the lower levels.

Giroux (2004) advances the works of Dewey and Freire concerning traditional education by advocating an expansion of the scope of pedagogy to include experiences beyond the classroom. Giroux explains pedagogy as political, cultural, and social, and capable of bridging the gap between abstract or received information and practical or experienced knowledge, stating, “Educators need to find ways to make knowledge meaningful in order to make it critical and transformative” (p. 66). Teachers are not infallible and omniscient beings and should not be viewed as such, though traditional education establishes this fallacy as truth. Rather, teachers should be free, and even encouraged, to learn from and with their students. If this shift takes place, then the critical engagement and dialogue necessary for transformative progress within education as a whole become possible.

An experiential learning environment occurs when students obtain educative properties from quality personal experiences. For Giroux (2004), Freire (2000), and hooks (1994), that personal experience is reflected in dialogue. Dewey (1938) argued, “When education is based upon experience and educative experience is seen to be a social process…it indicates the need for development of forms of intercourse that are inherently appropriate to social situations” (p. 59). Positing the process-product model of education as inadequate to the task of effectively educating learners requires the implementation of an interactive model that classifies students as
both receivers and senders of information and as motivating forces within the classroom. Hence, an approach to education which fosters a dialogue or collaboration of learning (Freire, 2000; Giroux, 1994).

**Collaborative Learning Approach**

Socially based educational settings function using a collaborative, cooperative, or active learning method. These methods allow for a more experiential learning environment than the process-product approach to education (Dewey, 1938). While cooperative learning classrooms provide more structure than collaborative learning, both environments promote a shared responsibility for teaching and learning between teachers and students (Matthews, Cooper, Davidson, & Hawkins, 1995). Collaborative learning environments often involve self-directed student learning (Hmelo-Silver, 2004) and employ various peer interaction modalities (Dobos, 1996). Social models of education assume a direct causal relationship between increases in student ownership and construction of learning experiences and student cognitive, affective, and behavioral learning (Sweller, 1988). Instructors in social learning models often act as facilitators, rather than traditional givers, of knowledge (Darling, 1990). Among the many variations of social learning models which include instructors-as-facilitators are service learning (a branch of experiential learning), inquiry-based learning, and problem-based learning.

**Service Learning**

Perhaps the most socially-based educational setting of the collaborative learning approaches, service learning breaks from traditional pedagogical paradigms to allow students simultaneous experiential learning and community engagement opportunities (Billig, 2000).
Students working through this approach develop a sense of the interdependence of community members (Ravenscroft, 1997), and experience integrated learning environments (Youth Community Service Organization [YCSO], 2007). Service learning also provides students the opportunity for intellectual reflection, similar to that experienced through problem-based learning (Hmelo-Silver, 2004).

In order for the pedagogical philosophy of service learning to operate at peak educational potential, students’ progress must be monitored for the duration of the learning experience (National Service-Learning Partnership [NSLP], 2007). Researchers Barr and Tagg (1995) assert student achievement as stemming from the power or impact of educational environments on student learning, and recommend involving students in discussion and evaluation continuously to ensure that which is engaging is also educational. Teachers acting in service, or any social, learning situations are responsible also for having sufficient foreknowledge of a subject-matter or environment in order to direct and enable student learning towards specific educational goals (Dewey, 1938).

Among the necessary components of successful service learning situations is the privileging of student voice in the process of discovering and constructing their own knowledge (Billig, 2000). By meeting the needs of both students and the community, service learning provides an opportunity for teachers to enhance the academic curriculum and encourage life-long learning (Billig), while students experience feelings of contributing to and connectedness with their communities (Dewey, 1938). Freire (2000) forwards the concept of taking education out of the classroom and into the world, as service learning does, by stating simply, “…people do not exist apart from the world [but]…in the here and now…Only by starting from this situation can they begin to move” (p. 85). By privileging student voice and allowing for the freedom of
movement within both the educational experience and the community beyond the classroom, the service learning approach allows students a co-creation of knowledge not possible within the confines of the banking concept of education.

Inquiry-Based Learning

Inquiry-based learning is a process where students formulate questions, investigate sources of potential relevance through self and collaborative inquiry, and (co)create new knowledge by means of this approach (Allan & Powell, 2007). Students use this new knowledge to answer questions, accomplish pre-set learning goal, develop solutions, or support opinions, positions, and points of view. For example, if an instructor assigned her students to organize a class debate as an inquiry-based learning activity, students might research and discuss both the affirmative and negative sides to the issue at hand in order to best support their positions, using question forming, investigative techniques, and collaboration. Through this process, inquiry-based learning teaches students skills they can use to achieve life-long learning. Under the Bloom’s (1956) taxonomy of educational objectives, inquiry as a learning tool is classified on the higher levels of cognitive learning: analysis, synthesis, and evaluation. Several researchers argue in favor or the effectiveness of inquiry-based learning (Allan & Powell; Cleverly, 2003; Kreber, 2006; Werner, 2007), and push for it to be brought to the forefront in contemporary learning environments. Kreber states, “Creating meaningful and effective learning experiences for all students needs to be required as a professional obligation of those who teach” (p. 84)

Critics of the inquiry-based approach to learning argue this model as incapable of properly addressing the structure of the human cognitive process, as well as the differences in ability between novice and expert learners (Kirschner, Sweller, & Clark, 2006), citing various
empirical studies assessing the efficacy of minimally guided instruction on student learning outcomes. Sweller and Cooper (1985) found worked examples in mathematics classrooms as a more valuable teaching tool than inquiry based learning, showing students who were taken step-by-step by the instructor through the problem-solving process achieved higher grades overall than students who worked independently through self-inquiry. A limitation of this study, however, was its lack of inclusion of collaborative groups in the inquiry-based learning process. Some disciplines may not be naturally suited to inquiry-based learning and, in these instances, other forms of collaborative learning, such as problem-based learning, might be more appropriate.

Problem-Based Learning

In problem-based learning, education no longer functions as a one-way transfer of information from teacher to student. Instead, teachers encourage students to generate solutions independently, serving as facilitators of learning rather than transmitters of pre-existing sets of knowledge. By assuming control over the creation of knowledge and engaging in self-directed learning, students take responsibility for their educational experiences and develop effective problem-solving skills (Hmelo-Silver, 2004). Furthermore, students concentrate on finding solutions for real-world problems, leading them to become active learners (Schmidt, 1993).

Working in small collaborative groups, students are guided by their teacher through the problem-based learning cycle (Hmelo-Silver, 2004). First, students determine a problem scenario by identifying the circumstances surrounding the problem and generating hypotheses for a solution. This process requires students to engage in high levels of learning (Bloom’s, 1956), specifically analysis and evaluation. Following this, students identify possible deficiencies in
their knowledge or understanding of the problem through self-directed learning (Hmelo-Silver, 2004). Finally, students apply the new knowledge garnered through this process and reflect on their experiences, helping them learn the cognitive skills necessary for collaboration and lifelong learning (Schmidt, 1993).

Critics of problem-based learning assert the lack of cognitive processing capability in young/early learners as a major weakness in this approach. Sweller (1988) discussed the distinctions between novice and expert learners in various educational disciplines, finding novices as unpossessing of the necessary experience and cognitive schema required of the self-directed portions of problem-based learning. Early learners in Sweller’s study were capable, however, of “means-ends analysis” (p. 258), working backward from a solution or goal in order to generate problem-solving strategies. Though unable to immediately generate strategies due to a lack in experience in solving previous problems, novices are eventually able to become experts through repetition of the problem-based learning cycle. With teachers continuing to act as facilitators of learner-centered environments (Barr & Tagg, 1995), promoting collaborative work groups and supporting self-directed learning, the problem-based learning approach successfully casts students in active communication roles and allows them to become co-creators of knowledge.

In examining collaborative learning constructs, scholars do not abandon the education of the individual student in the pursuit of social learning (Shell, Husman, Turner, Cliftel, Nath, & Sweaney, 2005). Instructor/facilitators in socially based classrooms reprieve their students from passive roles as receivers and cast them instead as active senders and creators of knowledge. Freire (2000) asserted the transformative nature of social learning structures as enabling students to liberate themselves from the oppression inherent in traditional educational constructs. By
providing students a dual classification as both receivers and senders of information in the classroom setting, socially based educational settings address the inadequacies of the process-product model inherent to traditional educational settings. This dual role for students necessitates a deeper understanding of peer interaction behaviors within the classroom and raises the value of learner-to-learner immediacy research.

Immediacy

Mehrabian (1966a, 1966b) characterized immediacy as the degree of perceived physical and/or psychological intensity of interaction between the communicator and the receiver of the communication. By extending immediacy research into the classroom setting, Andersen (1979) established a positive relationship between teacher immediacy behaviors and student affective and cognitive learning. Following this, researchers have established a positive link between student perceptions of teacher immediacy and increased levels of student learning (Allen, Witt, & Wheeless, 2006; Andersen et al., 1981; Christophel, 1990; Myers et al., 2000; Rodriguez et al., 1996). Myers et al. (2000) found student perceptions of teacher communicator style, based on teacher-to-student immediacy behaviors, directly impact student communication motives and student perceptions of learning. Significant research exists concerning teacher-to-student nonverbal and verbal immediacy in the instructional communication discipline (Andersen, et al., 1981; Christophel, 1990; Gorham, 1988; Richmond et al., 1987), as well as the effects of teacher immediacy behaviors on student motivation and learning (Andersen et al., 1981; Christophel, 1990; Frymier, 1994; Frymier, 2005; Rodriguez et al., 1996). In order to highlight this research, I will discuss nonverbal immediacy, verbal immediacy, and immediacy and student learning outcomes.
Nonverbal Immediacy

Many researchers (Andersen, 1979; Andersen et al. 1981; Christophel, 1990; McCroskey et al., 1995; Frymier, 1994; Richmond et al. 1987; Rodriguez et al., 1996; Witt & Wheeless, 2001) report positive correlations between teacher nonverbal immediacy and its effects on student cognitive, affective, and/or behavioral learning. In her seminal research exploring the relationship of teacher immediacy to student learning, Andersen (1979) posited and supported several hypotheses, including a positive relationship between teacher nonverbal immediacy and student affect and behavioral commitment to the course. Using survey data collected from student participants, Andersen developed the Behavioral Indicants of Immediacy Scale (BII). Through three separate studies, Andersen et al. (1981) tested the BII and noted a significant correlation between teacher nonverbal immediacy and perceived teacher communicator style and student perception of instructor communicator style and cognitive, affective, and behavioral learning. Implementing again the use of survey data collected from student participants, researchers found students as more likely to report teachers as effective educators when students perceived said teachers as highly immediate and open communicators. This relationship is further supported by Plax et al.’s (1986) findings of a positive correlation between students’ perceptions of teachers’ nonverbal immediacy behaviors and students’ affective learning.

Richmond et al. (1987) created and tested the Nonverbal Immediacy Scale (see Appendix B), consisting of 14 teacher-to-student immediacy behaviors, concluding a significant association between teacher immediacy behaviors and student cognitive learning. Building on previous studies concerning immediacy, student motivation, and learning (Andersen, 1979; Gorham, 1988), Christophel (1990) sought to understand the extent to which teacher immediacy and student motivation are predictors of learning. Christophel applied a split-class methodology,
using two separate studies for data collection, to ward against “potentially inflated correlations” (338) and allow for a comparison of data between both studies. Study I required students (primarily undergraduate) to complete three instruments: Trait and State Motivation Scales consisting of twelve bi-polar adjectives describing their feelings towards school in general (trait) and a specific class (state) (see Appendix C), an Immediacy Behavior Scale (see Appendix D), based on Gorham’s (1988) verbal and Richmond et al.’s (1987) nonverbal immediacy behaviors, and both Cognitive and Affective Learning Scales (Richmond et al., 1987; Gorham, 1988; McCroskey, Richmond, Plax, & Kearney, 1985, and Scott & Wheeless, 1975) (see Appendix E).

Study II applied the aforementioned split-class model, assigning approximately equal halves of classes to complete either a combination of motivation and immediacy or motivation and learning scales. Through these findings, Christophel successfully demonstrated the direct effects of teacher immediacy on student state motivation and of state motivation on student learning, clearly supporting “the interrelated nature of immediacy, motivation, and learning” (p. 335).

Frymier (1994), also using Richmond et al.’s (1987) Nonverbal Immediacy Scale, designed the motivation model (see Figure 1) to illustrate the effects of teacher immediacy on student state motivation and of student state motivation on student learning. Rodriguez et al. (1996) developed the affective learning model to advance a causal relationship between teacher nonverbal immediacy and student affective learning, and the affects of this relationship on student cognitive learning. Researchers have greatly advanced the instructional communication field by examining nonverbal immediacy in teacher-to-student classroom communication. Nonverbal immediacy research is incomplete, however, until it explores learner-to-learner immediacy behaviors in the classroom as well.

Recent scholarship (Smythe & Hess, 2005) has called into question the efficacy of
student-self reporting of teacher immediacy behaviors as a valid method for measuring the effects of said immediacy on student learning and motivation. Researchers examined the seminal measures of nonverbal immediacy in order to check the validity of several items included therein, adding items such as showing encouragement to students through nonverbal gestures and revealing feelings through facial expressions. Some items were eliminated from the measure, including one item referring to instructor body tension, as were all negatively worded items. This was done to prevent redundancy and subsequent inflation in the scale’s reliability coefficient. Other items were categorized together and therefore combined and reworded into one item, thus leaving the new measure, Nonverbal Immediacy in College Classroom Instruction [NICCI], with eight total items. Based on little deviation in results achieved from either measure, the new measure (NICCI) is unlikely to differ from the old (BII, Anderson et al., 1981).

Following the development of NICCI, Smythe and Hess (2005) worked to determine the validity of student self-reporting using the new measure. Seventeen instructors were videotaped while lecturing to ensure coders of nonverbal immediacy behaviors were able to fully review and assess all behaviors exhibited in a given class period. The results of this experiment suggest student self-reports as not valid when measuring teach nonverbal immediacy, leading researchers to state, “any claims about the impact of teacher nonverbal immediacy on instruction which is based on student report data should be viewed with skepticism” (p. 178).

Though Smythe and Hess’ findings proffer cause for great concern among researchers studying teacher-to-student immediacy, there is nothing in their findings which refutes the potential for students to reliably and successfully report on learner-to-learner immediacy. While the latter is hypothesized as mimicking the former in its effects on student motivation and learning, the power structures between learners conceivably differ from those between teacher
and student. As discussed previously when reviewing the traditional approach to education, students have long been socialized to see teachers as active senders of knowledge while students are merely passive receivers. Unless and until students come to view teachers as co-investigators in the pursuit of learning, the power distances between teachers and students prevent claims concerning one group to irrefutably dictate the processes of the other.

**Verbal Immediacy**

Several researchers (Christophel, 1990; Gorham, 1988; Kearney, Plax, & Wendt-Wasco, 1985; Powell & Harville, 1990; Sanders & Wiseman, 1990; Titsworth, 2004; Witt & Schrodt, 2006) examined the relationship between teacher verbal immediacy behaviors and student cognitive, affective, and/or behavioral learning, and reported significant correlations between variables. Expanding on previous studies concerning teacher verbal and nonverbal immediacy behaviors (Andersen, 1979; Richmond, Gorham, & McCroskey, 1987; Mehrabian, 1967, 1981), Gorham (1988) focused her research on identifying the classroom effectiveness of specific teacher-to-student verbal immediacy behaviors, highlighting the relationship between student perceptions of teacher immediacy and student cognitive and affective learning. Gorham created a survey of 20 verbal (as well as 14 nonverbal) teacher immediacy behaviors. Through her results, Gorham demonstrated the significant relationship between both verbal and nonverbal teacher immediacy behaviors and student learning, regardless of class size or message type, showing a significant correlation with both student perceptions of cognitive learning and student affective learning. Furthermore, verbal and nonverbal immediacy behaviors were shown to work most effectively when used together rather than separately.

Researchers (Robinson & Richmond, 1995) have called into question the validity of the
aforementioned verbal immediacy scale, arguing the scale as “a valid measure of verbally effective teach behaviors, but not of verbally immediate teacher behaviors” (p.81). Checking first for face validity of Gorham’s (1988) measure, researchers queried the effectiveness of specific word choices within items throughout the scale, finding a negative correlation between similar statements containing reverse wording (see Appendix D, items 9, 12, 15, & 18) and concluding a reorganization of items as necessary for the scale to function at peak efficiency. Following this, researchers ran a predictive validity to check the verbal immediacy scale items by measuring their correlation to scores from similar items on Richmond et al.’s (1987) measure of nonverbal immediacy, finding a generally low correlation between the majority of items. These results led the researchers to argue in favor of a revised or even replacement, measure to more accurately reflect teacher immediacy over teacher effectiveness.

While Robinson and Richmond’s (1995) findings shed new light on constructs and measures vital to the integrity of teacher-to-student verbal immediacy research, they do not serve to discredit the existent body of educational immediacy research in general, or the possibility of generating new and more accurate measures better able to address the effects of teacher verbal immediacy on student motivation and cognitive and affective learning. As scholars continue to contribute innovative research perspectives and previously unexplored avenues of impactive relationships within the learning environment, inclusive of those in the learner-to-learner direction, refinements like those suggested by Robinson and Richmond will undoubtedly arise and serve to better the instructional communication field as a whole.

Christophel (1990) built on previous studies (Andersen, 1979; Gorham, 1988) to establish the roles of teacher verbal immediacy behaviors and student motivation as positive predictors of student learning. Powell and Harville’s (1990) intercultural assessment of student learning
outcomes indicated a positive correlation between teacher-to-student verbal immediacy and student perceptions of teacher clarity. Sanders and Wiseman (1990) determined teacher-to-student verbal immediacy as positively affecting student cognitive, affective, and behavioral learning, with affective learning receiving the highest scores of correlations to teacher immediacy. Titsworth (2006) argued for teachers to enhance the effects of verbal immediacy by clarifying organizational cues for students, raising questions about “the reported relationship between teacher immediacy and student cognitive learning” (p. 316). By only employing the teacher-to-student model of verbal immediacy when assessing student learning, instructional communication researchers are limiting their understanding of the effects of classroom communication on student learning. Researchers must address learner-to-learner immediacy behaviors in order to move beyond said limitation.

Rationale

As demonstrated in the previous review, scholars apply the results from these and similar studies in both the communication and education fields to evaluate current teaching methods and strategize for the future. Frymier’s (2005) move beyond the process-product model of instruction to explore the affects of student communication on student motivation and learning highlighted the necessity of including learner-to-learner communication when researching immediacy and student learning outcomes. Scholarly focus in existing immediacy research, however, is solely on the effects of teacher immediacy behaviors on student learning outcomes and fails to examine student motivation and learning separately from teacher behavior. By confining their research to teacher-to-student communication, researchers fail to address the full scope of student interaction in the classroom.
Prior to Andersen’s (1979) ground-breaking application of Mehrabian’s (1969) immediacy construct to the educational setting, researchers were not limited to conceiving of immediacy in terms of teacher behavior. Therefore, my substitution of learner-to-learner in place of teacher-to-student when discussing immediacy constructs does nothing to alter the basic premise of immediacy behaviors as effective reducers of perceived physical or psychological closeness. Few, if any, researchers have explored learner-to-learner behaviors in the classroom, though some scholars have noted factors capable of shaping student behavior. Researchers Conway, Easton, and Schmidt (2005) examined the impact of learner-to-learner immediacy behaviors on course outcomes in an online learning environment, with inconclusive results due to insignificant information available from using only student online messages posts as a means of data collection. However, as the researchers themselves point out, immediacy in online classes is drastically different from that in face-to-face settings, thereby leaving the importance of learner-to-learner immediacy behaviors still open to exploration. Christophel’s (1990) findings of student state motivation to learn as modifiable by teacher immediacy behaviors establishes the potential of learner-to-learner immediacy behaviors playing a similar role. Based on her conclusion of a positive association between students’ communication effectiveness and student learning outcomes, Frymier (2005) called for future research in the area of student communication effectiveness, positing increased learning and classroom performance levels for students able to communicate effectively with teachers and peers.

The possibility of learner-to-learner immediacy behaviors as mimicking the construct of teacher-to-student immediacy behaviors creates a gap in existing immediacy research. Once determined, these immediacy behaviors could greatly affect new communication models in common educational settings and provide a solid foundation for further research in the student as
sender and learner-to-learner directions. If, as Sprague (1992) asserts, knowledge is constructed socially, then the exploration of the social effects students have on other learners in the classroom is a vital component in understanding the machinations of education. Unfortunately, existing measures of immediacy behaviors commonly used in classroom settings are limited to teacher-to-student communication. A revision of existent measures that includes the behaviors of peer interactions is necessary to fully assess the influence of learner-to-learner immediacy behaviors on student learning outcomes. In light of this argument, I propose the following three studies:

Study 1: Identify the verbal and nonverbal immediacy behaviors commonly used between students in classroom settings.

Study 2: Develop a scale measuring learner-to-learner immediacy behaviors using common behaviors identified in Study I.

Study III: Apply the scale developed in Study II to test the affects of common learner-to-learner immediacy behaviors on student state motivation and student cognitive and affective learning.
CHAPTER 3

STUDY I

Method

My goal in Study I was the identification and classification of commonly used learner-to-learner verbal and nonverbal immediacy behaviors. For this study, I used a mixed method approach employing a concurrent nested design (Creswell, 2003). Data collection included a primary focus of ethnography and student surveys.

Participants

Participants were gathered from four undergraduate courses in various communication classes at a large Southwestern public university. My selection of undergraduate courses for this study was based on their inclusion of social learning components (e.g., collaborative learning groups, problem based learning), class size (not to exceed 30 students), and number of meetings throughout a long semester (at least once a week). One class from each thousand level of course offering was selected to ensure greater generalizability of results. Participant total was 116 current undergraduate students (n=116) and 4 instructors. Of the total student sample, 53 were male (45.8%) and 63 were female (54.2%). The mean age of participants was 21.66 years (SD=4.23), and the median and mode ages were both 21 years. Twenty-three participants withheld their ages. Seventy participants listed their ethnicity as Caucasian (60.3%), twelve as African-American (10.3%), 21 as Hispanic (18.1%), and five as Asian (4.3%), with eight participants indicating other ethnic groups or not reporting ethnicity (7%). Students who began the semester but do not complete it were not counted as participants. Students who completed the survey and signed the accompanying consent form were awarded extra credit points by their professors as
compensation for participation in the three highest level courses, and were given regular class credit for an assignment in the lowest level course. Participant responses were anonymous.

**Procedures and Materials**

I completed ethnographic field observations using an observer-as-participant design. I visited each of the four undergraduate courses six to eight times during the long semester prior to student survey completion, and collected data through field notes. By making multiple classroom visits for observation, I established myself as part of the general classroom climate. Through this visitation process, I allowed students to feel accustomed to my presence and created an observation environment conducive to authentic student interaction (Creswell, 2003). During these visits, I initially took notes on all student interaction observed during in-class communication. After three hours in each classroom, I conducted a preliminary wave of categorization and coding on my field notes to identify any emergent themes. Once identified, these evolving themes served to inform future observations (Lindlof & Taylor, 2002), cuing my attention to frequently occurring student immediacy behaviors.

Students self-reported classroom experiences involving communication between learners were examined through open-ended survey questions (see Appendix F). Open-ended survey questions addressed student perceptions of closeness with other classmates and directed students to list specific verbal and nonverbal behaviors enacted by said classmates during classroom interactions. Students completed surveys after the mid-semester mark and prior to semester final exams during a normal long semester. Administering surveys at this point in the semester allowed sufficient time for students to establish normative communication patterns and build relationships with other students in the classroom (Christophel, 1990). Students were asked for
their consent during my first classroom visit, notified their participation was anonymous, voluntary, and carried no weight on their grades or class standing prior to completing the survey. I asked participants to complete their surveys and interviews based on the class in which they received the survey. Finally, I requested and carried out follow-up interviews as needed of instructors for each course surveyed to elaborate on field observations and clarify student responses on surveys.

Data Analysis

Upon completion of field observations, I transcribed handwritten field notes. I then applied thematic analyses to transcription notes to identify commonly described verbal and nonverbal immediacy behaviors enacted between learners in a classroom setting. All categories of behavior were divided into sub-categories of Verbal Immediacy, Nonverbal Immediacy, On-Topic Communication (communication which directly relates to the course subject), and Off-Topic Communication (communication which is unrelated to the course subject) and deemed either positive/immediate or negative/non-immediate. After student completion of open-ended surveys, I transcribed survey results. Employing previously identified (Andersen, 1979; Christophel, 1990; Gorham, 1988; Richmond et al., 1987) teacher-to-student immediacy behaviors as a guide for emergent themes in student responses, I categorized related behaviors together.

Results

Classroom Observations

Following the initial wave of categorization and coding of field notes from classroom
observations, several themes emerged. Many pieces of data fit well into multiple categories, and
the resulting crossover allowed for a wealth of variety in the verbal and nonverbal immediacy
behaviors commonly used between students in classroom settings. The following results are
organized as positive or negative verbal and nonverbal overarching themes emergent from data
collection and coding

Among the verbal behaviors which occurred frequently in all classrooms was the
proclivity of students to speak independently of teacher prompting. Not all information
volunteered by students was on-topic, or relevant to the discussion, but divergent strands of
conversation were usually redirected by either the instructor or other students intent on
continuing the topic of the class meeting. Students, especially in the upper level courses, were
quick to offer compliments or constructive criticisms to their fellow classmates, and appeared to
expect the same in return. Though each class differed in specific topic and instructor
communicator style, students conveyed similar levels of comfort with their environments in all
sections, as evidenced by their willingness to share opinions and offer feedback.

An interesting verbal behavior noted from the first round of coding was the frequency
with which students relied on humor to engage the attention of their peers. Off-topic humor was
predominant in the lowest level course observed, and on-topic humor occurred most in the upper
level courses. Students in these classes seemed to share several inside jokes related to the subject
matter, and would laugh in response to humorous comments made by classmates when
discussing the topic of the class meeting. Students in the lowest level course demonstrated a
tendency to use humor inappropriate to the classroom environment, choosing to be sarcastic or
even rude at times in an attempt to gain the attention of their peers and distract from the
instructor.
Another separation between the upper and lower level courses comes from the timing of student verbal behaviors. In the upper level courses, students spoke to each other prior to the beginning of class and as they were preparing to leave, but generally remained quiet for the duration of the instruction. On several occasions, the instructors in these sections opened the topic to student discussion, allowing students the opportunity to consult with each other about the lesson. The instructor of the lowest level course also afforded his students the same opportunity, but had to severely limit the time allotted due to students deviating from on-topic group conversations into off-topic side conversations. Students in this class also seemed more willing to interrupt each other than in the other sections, perhaps because of the nature of the material being covered or their lack of state motivation for the particular course.

A variety of nonverbal behaviors also emerged during the initial round of coding. Students in all classes were regularly observed displaying positive immediacy cues, such as smiling at each other and facing whomever was speaking at any given time during the class meeting. The majority of posturing affected by students is best described as casual or relaxed, manifested by slouched shoulders, students sitting with crossed or even folded legs, leaning back in their chairs, and leaning towards other students when engaged in small group discussions. Students rarely made physical contact with one another, but in cases where this did occur the response of the one being touched was generally to smile or to gently touch in return. This touching was usually a hand proffered for shaking or, in a few cases, a female student reaching to fix the tag on the shirt of another female student.

Students in all classes regularly took notes during instruction, demonstrating active listening skills to any watchers. When engaged in or excited by a particular topic, students indicated their interest and enthusiasm by raising their hands to indicate a desire to speak,
animated facial expressions in response to things being said, the use of gestures when offering explanations, and a notable variety in their vocal expressions. Students in the highest level course frequently made eye-contact with other students, especially when another student was speaking in front of the class or if speaking in front of the class themselves.

On several occasions, students in all classes displayed negative or non-immediate nonverbal behaviors, including the use of technology during instruction. A handful of students in each class brought their laptop computers to each class meeting, and would use the computers to play games, explore the internet, or look at pictures rather than to take notes or engage, through technology use, in the educative environment. Students used their cellular phones on multiple occasions while in class to send text messages or play games as well, regardless of course level. Students without ready technological devices found other ways to entertain themselves when not engrossed in the topic up for discussion, completing crossword puzzles in newspapers or reading the comics pages. In many of these cases, the individuals enacting these off-topic nonverbal behaviors were left uncorrected by either their peers or instructor, though sometimes an instructor would call on an offending individual without prior warning in order to redirect their attention to the material at hand. After the above and other behaviors were identified through the initial round of coding, the emergent themes served to inform future observations and direct my focus to similar student immediacy behaviors.

Student Self-Reports

Student self-reports of classroom experiences involving communication between learners were administered through open-ended survey questions in the final two weeks of the semester. Each student who elected to participate in the survey answered all questions asked in full. The
answers given by students on these surveys were coded based on similarities in word choice, specific behaviors described, and course level of student. All behaviors were classified as either verbal or nonverbal and positive or negative. Once all student responses were coded, the frequency of each behavior mentioned was calculated, and like behaviors were collapsed into overarching categories. For example, several students in all course levels wrote variations on “volunteering to speak” when prompted to list positive verbal behaviors, including the exact wording thereof, “volunteers to talk” and “participating by volunteering.” In general, student comments related to the categories were made at all course levels, thus course level was not relevant within this analysis.

When discussing positive verbal behaviors, a number of students remarked on the importance of verbal communication between students in contributing to a comfortable and safe classroom environment. As one participant explained, “Many unique insights, informed dialogue, and language add to comfort among students, enabling active participation.” Additionally, some students commented specifically on the interpersonal results of positive verbal behaviors, saying,

I think for the most part the students in this class are expressive of their true feelings regarding their values and beliefs, and unencumbered by worries about how they might be stigmatized or stereotyped. The open communication results in a positive environment. (Male student, senior course level)

Other positive verbal communication between students mentioned included the importance of “speaking respectfully,” being “humorous [as] it relates to the class,” “crack[ing] jokes that when appropriate will create a friendly environment,” being “supportive [and] assertive,” and “vocally offering many viewpoints.” These statements are in line with findings from the initial round of coding of field notes from observation, and offer support to the emergent themes found therein.
Students also reported a variety of negative verbal communication behaviors, noting the ability of such to be distracting from the overall learning environment. Multiple students mentioned the tendency of classmates to try and “talk over each other [which] causes us to lose time and get heavily off topic,” going so far in some cases as to say, “some people just won’t shut up” making it “hard to get a word in.” As another student stated,

I don’t think the interactions in class are a positive manner [sic]. Everyone wants to put in their own opinion, so when everyone does it, people start raising their voices. This class gets unorganized, and some people tend to talk the most for too long. There is too much noise. (Female student, junior course level)

The effect of negative verbal behaviors extended beyond the realm of distracting in some cases, causing students to remark on “jokes that are neither funny or appropriate,” students who “ridicule other’s ideas, especially behind their back with other students,” and in one case even being “afraid to speak” for fear of being thought “ignorant” by other students.

Numerous students commented on the detriments of off-topic conversation in the classroom. For example,

I hate it when students try to get the Prof [sic] off topic. I am paying to learn not hear about random chatter that doesn’t pertain to the course. I also feel that people [who do this] just want to hear themselves talk. There are a few who say the most ridiculous things and the class does become annoyed. (Female student, senior level course)

One participant summed up these sentiments by simply stating, “If there is someone in class that gets on your nerves you tend to not pay attention to what they are saying.”

As students discussed the positive nonverbal communication behaviors enacted by their classmates, a wealth of body language and posturing terms entered the discussion. On multiple occasions, students listed the role “smiling at me” or “smiles after presentations” played in the impressions formed of their classmates. As one participant stated, “Being able to look at my friends and smile or laugh (nonverbally) [sic] together during class makes the classroom
experience positive,” thus highlighting the importance of supportive nonverbal in creating a safe and comfortable learning environment. Also noted by multiple students was the significance of eye contact as a “nonverbal communication [which] is easier understood so we can easier communicate,” with one student stating specifically, “eye contact is how you know someone in interested and shows attentive focus.”

Other behaviors which illustrate an engaged attitude or active listening were more difficult for students to elaborate on, so the language in these cases was often vague and without extensive detail. Still, many students took the time to mention general nonverbal behaviors, such as “listening to one another,” “taking turns,” saying “the environment in the class is fun!” and noting feelings of being “safe and accepted.”

When listing the negative nonverbal behaviors encountered in the classroom, participants met a similar obstacle in providing detailed descriptions. Students were quick to point out the detrimental effect of “some people not paying attention to lecture or presentations,” saying “it might cause distractions.” Numerous students made note of student use of personal technology devices for non-educational purposes within the classroom, including, but not limited to: students using cell phones to send text messages during class and students playing games or exploring entertainment websites on personal computers during class. “I’ve seen students texting and I know I have,” responded one student. Another participant created a list of behaviors:

Non-Verbal: Sometimes texting is a consistent issue- there are people who constantly text throughout the class, and others are doing word games (crosswords and sudokus) or working on their computer, reading outside materials (computer), Facebook messaging may occasionally occur, email, et cetera. (Male student, freshman level course)

These, and other negative nonverbal behaviors, are similar to those mentioned in field notes obtained during classroom observations, and therefore signify a connection between the
Discussion

The purpose of this study was to identify the verbal and nonverbal immediacy behaviors commonly used between learners in classroom settings. The research described above illuminated several previously unidentified communication behaviors used between students to negotiate the educational environment and foster a psychological closeness between learners, and provides the foundation for Study II. Learner-to-learner immediacy behaviors appear to mimic, for the most part, teacher immediacy behaviors in ability to create an overall classroom environment of comfort and safety, supporting the theorized potential of students as directly influencing the motivation to learn and perceptions of learning held by their classmates.

In all course levels observed, students displayed a propensity for engaging in positive verbal immediacy behaviors while interacting in the classroom. Through praise for each other’s work, on-topic humor, and a willingness to speak regardless of instructor instigation, students contributed to an overall atmosphere of comfort and safety within their learning environment. These and other positive verbal behaviors were summarized into the following items designed for analysis in Study II (see Table 1).

Also emergent through both field notes and student survey responses were several negative verbal behaviors common to the college classroom (see Table 1). Students, regardless of course level, demonstrated a tendency to interrupt others (both teacher and students) while they are speaking. On numerous occasions, students complained upon receiving instructions concerning assignments from their instructor, which could be indicative of a lack of positive state motivation, either towards content or instructor. Further comparison between learner-to-
In contrast to Christophel’s (1990) measure, which contained several more verbal behaviors than nonverbal behaviors, a greater number of nonverbal behaviors emerged throughout the observation process of this study, with several positive student nonverbal behaviors manifesting across course levels (see Table 1). Among these were student notetaking habits, which are significantly correlated with student achievement in the learning environment (Titsworth, 2004). Also apparent were various forms of body language which, in both field observations and the reports offered by students, contributed to an overall classroom climate of comfort and safety. Through a variety of nonverbal means (sharing school supplies, nodding and smiling at classmates while listening, etcetera), students demonstrated consistently in all course levels a willingness to help others. These behaviors generally did not differ greatly in execution across course levels, although seemed to occur more frequently in the highest level course observed. This increase in behavior frequency possibly occurred because of the increased familiarity between students, as the majority of students in this course shared the same educational major and were enrolled in past classes together.

The negative student nonverbal behaviors discovered through this study were the area of greatest divergence yet seen from existing teacher immediacy behaviors. Some negative nonverbal immediacy behaviors observed were those which not only distracted the individual engaging in said behaviors, but other members of the class. Two behaviors worthy of note are those of student technology use for non-educational purposes while in class. Developed in 1990, it is unlikely Christophel’s Immediacy scale would have incorporated the use of cellular phones or personal laptop computers into her measure, as these items were not prevalent in college
classrooms. While some students may use their laptop computers, or even cellular phones, as
note taking tools occasionally, the most common purpose served by these devices was that of
diversion from the educational topic of any given class meeting. These behaviors were noted
more frequently in field notes obtained during observation than in student survey responses,
which may prove to be an important distinction in future research.

In order to move forward from the observations and results identified above, the items
which emerged in this study cannot remain as a mere list enumerating potential immediacy
behaviors students may engage in while communicating in the classroom environment. Using
face validity to group both student immediacy behaviors emergent from field notes and common
in student survey responses, the items identified in Study I (see Table 1) provide the foundation
for developing a new scale measuring learner-to-learner immediacy behaviors.
CHAPTER 4
STUDY II

Method

For Study II, I developed an immediacy scale measuring the behaviors identified in Study I to confirm the results of my qualitative research. I modeled this scale on Christophel’s (1990) combination of Richmond et al.’s (1987) Nonverbal Immediacy Scale and Gorham’s (1988) Verbal Immediacy Scale, modifying the teacher-to-student approach by substituting learner-to-learner as the communication measured and eliminating those items applicable only to teacher-to-student interaction. This new scale allows for a quantitative approach similar to those employed by researchers focusing on teacher-to-student immediacy behaviors.

Procedures

I compared the categories identified in Study I with the items listed by Christophel’s (1990) Immediacy Behavior Scale (see Appendix D). This scale consists of thirty-four examples of teacher-to-student verbal (example: addresses students by name) and non-verbal (example: smiles while talking) immediacy behaviors which may occur in the average college classroom. I eliminated immediacy behaviors which are only applicable in teacher-to-student immediacy constructs by removing those behaviors not present during the course of field observations or unreported by students on surveys. For example, items such as “sits behind desk while teaching,” “asks questions that have specific/correct answers,” “is addressed by his/her first name by the students,” and “touches students in the class” (see Appendix D, verbal items 5, 6, 11, 12, 13, 14, 15, & 20; nonverbal items 24, 30, 31, 32, 33, & 34;) were eliminated.
After this, the remaining items on Christophel’s scale were compared to behaviors from the results of Study I. Special attention was paid in this case to behaviors with similar, though not exact, wording. These behaviors were scrutinized in an effort to ensure words used by students were equivalent to those used by Christophel. In instances where student words did not provide a detailed description of the intended behavior, Christophel’s words were given preference. Several new items were added to Christophel’s scale as well, resulting in a total of 37 items (19 verbal and 18 nonverbal). Among the new items were two dealing with student reports of technology use in the classroom (see Appendix G, items 10 & 11).

Following this, I determined which immediacy behaviors exist in both teacher-to-student and learner-to-learner communication by using concurrent validity to compare behaviors listed by Christophel with those behaviors observed during classroom visits and reported by students. I added to the Immediacy Behavior Scale any new learner-to-learner specific items identified through my field observations or reported by students in Study I (see Table 1), resulting in a scale measuring learner-to-learner immediacy behaviors commonly enacted in the college classroom (see Appendix G).

Finally, I conducted a pilot survey to test the format of my newly developed Learner-to-Learner Immediacy Behavior Scale and used face validity to determine reliability of the items included therein by administering the survey to students enrolled in an undergraduate communication class. I conducted a factor analysis of the Learner-to-Learner verbal and nonverbal immediacy scales.

**Participants**

Participants were gathered from an undergraduate communication class at a large
Southwestern public university. My selection of the undergraduate course for this study was based on its inclusion of social learning components (e.g., collaborative learning groups, problem based learning), class size (approximately 100 students), and number of meetings throughout a long semester (at least once a week). Participant total was 92 current undergraduate students (n=92). Of the total student sample, 34 were male (36.9%) and 52 were female (56.5%), with six declining to identify sex. The mean age of participants was 21.39 years (SD= 4.41). Five participants withheld their ages. Sixty-one participants listed their ethnicity as Caucasian (66.3%), 15 as African-American (16.3%), nine as Hispanic (9.8%), and three as Asian (3.3%), with four participants indicating other ethnic groups or not reporting ethnicity (4.3%). Nine students were classified as freshmen (9.8%), 29 as sophomores (31.5%), 31 as juniors (33.7%), and 16 as seniors (17.4%), with seven declining to identify classification. Students who completed the survey and signed the accompanying consent form were awarded extra credit points by their professor as compensation for participation. Participant responses were anonymous.

Results

Student survey responses were checked for reliability through a principal components factor analysis using Varimax rotation. Learner-to-learner verbal and nonverbal immediacy items were examined separately in accordance with the use of the teacher verbal and nonverbal immediacy scale (Christophel, 1990).

Verbal

Students who participated in Study II responded to 19 verbal items within the Learner-to-
Learner Immediacy Behavior Scale (Cronbach’s alpha= .67) (see Table 2). Of these items, five had factor loadings with Eigenvalues over 1.0 and accounting for over 5% of the variance. The first factor had an Eigenvalue of 5.20 accounting for 27.34% of the variance, the second factor had an Eigenvalue of 2.67 accounting for 14.06% of the variance, the third factor had an Eigenvalue of 1.47 accounting for 7.75% of the variance, the fourth factor had an Eigenvalue of 1.27 accounting for 6.67% of the variance, and the fifth factor had an Eigenvalue of 1.09 accounting for 5.75% of the variance.

The verbal items loaded primarily into two components using principal component analysis (see Table 2). Items which did not load clearly on the strongest two components were eliminated from the scale (see Table 2, items 6, 7, 8, 11, & 12). Upon further examination, the second component emerging was found to be an inadvertent ‘rudeness measure’ within the student verbal immediacy items. The items within this measure, for example: “Complain or whine in response to instructions from teacher” were also eliminated from the scale (see Table 2, items 5, 14, 16, & 17). The remaining 10 items were examined, again through a principal components factor analysis. In this analysis, one component emerged with an Eigenvalue over 1.0 and accounting for over 5% of the variance, with an Eigenvalue of 4.57 and accounting for 45.69% of the variance. Reliability of this new 10-item Learner-to-Learner verbal immediacy scale reached acceptable levels (Cronbach’s alpha= .865).

Nonverbal

The remainder of the Learner-to-Learner Immediacy Behavior Scale consisted of 18 nonverbal items (Cronbach’s alpha= .789) (see Table 3). Of these items, five loaded with Eigenvalues over 1.0 and accounting for over 5% of the variance. The first factor had an
Eigenvalue of 4.57 accounting for 25.38% of the variance, the second factor had an Eigenvalue of 2.88 accounting for 16.00% of the variance, the third factor had an Eigenvalue of 1.86 accounting for 10.34% of the variance, the fourth factor had an Eigenvalue of 1.38 accounting for 7.65% of the variance, and the fifth factor had an Eigenvalue of 1.17 accounting for 5.40% of the variance.

The nonverbal items loaded primarily into two components using principal component analysis (see Table 3). Items which did not load clearly on the strongest two components were eliminated from the scale (see table 3, items 8, 9, & 12), except nonverbal immediacy item 13 (appear interested in or listen to comments made by other students). This item was the inverse of nonverbal item 14, which loaded strongly on component two. Thus it was retained in the analysis.

The remaining items were examined, again through a principal components factor analysis. In this analysis, two components emerged with an Eigenvalue over 1.0 and accounting for over 5% of the variance. The first factor had an Eigenvalue of 4.26 accounting for 32.76% of the variance and the second factor had an Eigenvalue of 2.27 accounting for 17.48% of the variance. Upon review of the two emergent components, both were found to be comprised of social behaviors, with the first component containing items describing anti-social behaviors, for example: “Have a very tense body position when talking to other students” (see Table 3, items 1, 5, 14, & 17) and the second containing pro-social behaviors, for example: “Smile at other students while talking” (see Table 3, items 2, 3, 4, 6, 7, 13, 15, & 18). As both these factors still relate conceptually to immediacy and building psychological closeness, they were combined into one component, resulting in a new 12-item Learner-to-Learner nonverbal immediacy scale (Cronbach’s alpha=.85).
Discussion

The purpose of this study was to develop a scale measuring learner-to-learner immediacy behaviors using common student communication behaviors identified in Study I. Through the results of Study I, several potential behaviors used between students to negotiate immediacy in the classroom environment emerged for use in this study. After extensive comparison to existing immediacy scales (Christophel, 1990) and checks for reliability through a principal components factor analysis, studies one and two have culminated in the 22-item Learner-to-Learner Immediacy Behavior Scale (see Appendix H).

Within this scale are ten verbal and twelve nonverbal items enumerating various behaviors observed through classroom visits, reported by students on open-ended surveys, and shown as reliable through factor analysis. These items represent thirteen learner immediacy behaviors which may parallel teacher immediacy behaviors (see Appendix H, verbal items 1-6 & nonverbal items 11-17) and nine learner behaviors which were generated in analysis of Study I results (see Appendix H, verbal items 7-10 & nonverbal items 18-22).

Among the learner verbal immediacy behaviors posited as paralleling pre-existing teacher verbal immediacy behaviors are two items dealing with the potential for off-topic conversations between learners within the classroom environment (see Appendix H, items 1 & 3). These items may be read as either positive of negative by students responding to the scale, as off-topic conversations can be perceived as increasing immediacy through self-disclosure. Student humor (item 4) may also occur as off-topic communication, but is still considered immediate when it is perceived as positive or appropriate by other students. One of the new learner verbal immediacy behaviors resulting from this study, “Contribute, through comments, to a comfortable and safe classroom environment” (item 10) functions similarly to the examples given above, in that it is a
student’s perception of the behaviors of others which creates an atmosphere of immediacy. Some items, such as “Volunteer to speak without prompting from the teacher” (item 8) are less open to subjective interpretation, asking instead for a student to quantify his/her observations of classmates by indicating the actual frequency of the specified behavior and not the perceived frequency thereof.

Of the learner verbal immediacy behaviors removed from the scale were two items referring to possessive pronoun use by students (see Appendix G, items 7 & 8). For example, “refer to class as ‘my’ class or what ‘I’ am doing” loaded independently of all other items through the principal components factor analysis (see Table 2, item 7). This behavior, when engaged in by teachers, is seen as non-immediate because it is not inclusive of the entire class (Richmond et al., 1987). Participants in this study, however, may have interpreted the study as a sign of an individual’s feelings of ownership of or belonging to the class, causing its irregular loading. One learner nonverbal immediacy behavior loaded in a similar fashion (see Table 3, item 12). The item, which says, “Raise their hands to indicate a desire to speak,” may be viewed as non-immediate by students in classes where speaking openly is the normal or encouraged behavior, thus accounting for its irregular loading.

The two nonverbal items referring to student technology uses for non-educational purposes while in class did not load into either of the two strongest components reported above, and were therefore removed from the measure (see Table 3, items 10 & 11). This is possibly because of a lack of clarity within the phrasing of the items. The language of these two items was left intentionally vague due to their relative newness to the classroom environment and the lack of a basis for comparison when framing them for inclusion in the Learner-to-Learner Immediacy Behavior Scale. Should future research focusing on non-educational technology use in the
classroom require any redress of these items, one potential rewording could include the phrase “but not for class-related purposes” at the end of each item in order to clarify the negative orientation of the immediacy perceived through these behaviors.

The results of this study show current educational immediacy measures as incomplete due to their lack of inclusion of learner immediacy behaviors, and provide support for the argument to further examine learner immediacy as a potential force affecting student motivation and perceptions of learning, thus opening new research avenues for understanding the overall operation of immediacy in the learning environment. Before new research possibilities can be realized, these behaviors must be compared with existing measures in order to establish a framework for their effects on student motivation and perceptions of learning. Once determined, the relationship between learner-to-learner immediacy and student motivation and perceptions of learning could offer researchers, in both the communication and education disciplines, a richer understanding of the machinations of learning in general.
CHAPTER 5

STUDY III

Method

In Study III, I used construct validity to confirm the scale created in Study II was directly related to known measures of immediacy. Specifically, I compared how teacher verbal and nonverbal immediacy and learner-to-learner verbal and nonverbal immediacy influence student motivation and affective and cognitive learning. Based on previous instructional communication research, learner-to-learner immediacy behaviors were postulated as functioning similarly to teacher-to-student immediacy behaviors in the college classroom environment. Using multiple regression analyses, the following variables were tested for influence on one another: teacher verbal immediacy (α=.67), teacher nonverbal immediacy (α=.74), student verbal immediacy (α=.78), and student nonverbal immediacy (α=.83).

Participants

Participants were gathered from several undergraduate courses in various communication classes at a large Southwestern public university during the semester immediately following the completion of Study I. Subjects were recruited from over 40 undergraduate classes. Participant total was 273 current undergraduate students (n=273). Of the total student sample, 104 were male (38.1%) and 52 were female (56.5%), with three declining to identify sex. The mean age of participants was 21.32 years (SD= 4.58). Eight participants withheld their ages. One hundred sixty-three participants listed their ethnicity as Caucasian (59.0%), 45 as African-American (16.5%), 29 as Hispanic (10.7%), and 20 as Asian (7.4%), with 19 participants indicating other ethnic groups or not reporting ethnicity (7.0%). Seventy-eight students were classified as
freshmen (28.6%), 72 as sophomores (26.4%), 57 as juniors (20.9%), and 62 as seniors (22.7%), with seven identifying as other or declining to identify classification. Students who completed the survey and signed the accompanying consent form were awarded extra credit points by their professors as compensation for participation. Participant responses were anonymous.

**Procedures and Materials**

To participate, students visited a computer lab with private terminals designed for Communication research experiments, and were allowed as much time as needed to complete all measures. Students received the Learner-to-Learner Immediacy Scale resulting from studies one and two after the mid-semester mark and prior to semester final exams during a normal long semester. Students were directed to respond to the scale based on the class they take immediately preceding the class in which they receive the scale. Whereas Christophel (1990) tested her Immediacy Behavior Scale by asking students to respond to the items listed based on observed teacher behaviors, I asked students to respond based on the behaviors they notice when observing other students. For each item listed, students selected a number between zero and four, with zero being never, one being rarely, two being occasionally, three being often and four being very often, in regards to the frequency of a specific behavior occurring with the classroom environment.

Following the Learner-to-Learner Immediacy Scale and Christophel’s (1990) Teacher Immediacy Scale (as described in Study II), students completed the Cognitive Learning Scale (Richmond et al., 1987) as presented by Christophel (1990) (see Appendix E). This measure asks students to respond to two questions gauging student perceptions of learning loss using a scale of
To calculate the learning loss score, the numbered response to the first question is subtracted from the numbered response to the second question.

Students also completed the Affective Learning Scale, modeled by Christophel’s (1990) combination of Gorham’s (1988), McCroskey, Richmond, Plax, & Kearney’s (1985), and Scott & Wheeless’ (1975) analyses of the relationships between teacher immediacy and student learning (see Appendix E). This measure is a 24-item semantic differential-type scale designed to elicit student responses to affect for course content ($\alpha=0.88$), affect for recommended course behaviors ($\alpha=0.89$), and affect for course instructor ($\alpha=0.94$).

Finally, students completed Trait and State Motivation Scales (Christophel, 1990) consisting of twelve bi-polar adjectives describing their feelings towards school in general (trait) ($\alpha=0.85$) and a specific class (state) ($\alpha=0.90$) (see Appendix C).

All measures were loaded to an online data collection website and rotated in order between participants to limit the negative effects of participant fatigue on survey results.

**Data Analysis**

Upon student completion of all measures, I used compute factor analysis on the Learner-to-Learner Immediacy Scale to determine the grouping of items, followed by Cronbach’s alpha to measure reliability. I verified the validity of this new scale by comparing the influences of learner-to-learner immediacy on student state motivation and cognitive and affective learning to existing measures of teacher-to-student immediacy and the effects thereof on student motivation and learning. Based on the data recovered through studies one and two, I expect a similar relationship between learner-to-learner immediacy and teacher-to-students immediacy. Following this, I ran multiple regression analyses to parallel Frymier’s (1994) measurement of
the teacher-to-student immediacy behaviors as they relate to student motivation and cognitive and affective learning (see Figure 1).

Results

The purpose of Study III was to test the effects of common learner-to-learner immediacy behaviors on student state motivation, student affective learning, and student perceptions of cognitive learning loss. This study stands as the culmination of studies one and two within this project, and expresses a clear correlation between existent models of teacher-to-student immediacy and learner-to-learner immediacy, as well as demonstrating the influence of learner-to-learner immediacy on student motivation to learn and learning outcomes.

Correlational analyses indicate student perceptions of teacher verbal and nonverbal immediacy behaviors as positively associated with student state motivation, affective learning, and perceptions of cognitive learning loss (see Table 10). Correlational analyses also indicate student perceptions of learner-to-learner verbal and nonverbal immediacy behaviors as positively associated with student state motivation, affective learning, and perceptions of cognitive learning loss (see Table 10).

In the first series of regression procedures, trait motivation, teacher verbal immediacy, and teacher nonverbal immediacy (predictor variables) were examined for influence on student affect for content, student affect for recommended behaviors, student affect for instructor, and student perceptions of cognitive learning loss (outcome variables). This regression established the relationship between the three predictor variables and the outcome variables, with affect for content $R^2 = .22, p < .001$; affect for behavior $R^2 = .32, p < .001$; affect for instructor $R^2 = .48, p < .001$; (see Table 4), and cognitive learning loss $R^2 = .48, p < .001$ (see Table 5).
Following the above series of regressions, a second step was required to determine the role of student state motivation as a mediating variable in the influence of the predictor variables on the four learning outcome variables. The first set of this second step of regressions established the relationship between the teacher predictor variables and outcome variables, with affect for content $\Delta R^2 = .11, p < .001$; affect for behavior $\Delta R^2 = .03, p < .001$; affect for instructor $\Delta R^2 = .01 p < .001$; (see Table 4), and cognitive learning loss $\Delta R^2 = .01 p < .01$; (see Table 5). This second step of regression analyses shows state motivation has a greater influence on student learning outcomes than trait motivation alone. This relationship was also supported through regression analyses in Christophel’s (1990) findings.

A second set of predictor variables were examined, independently of the first set. In the first series of regression procedures, trait motivation, learner-to-learner verbal immediacy, and learner-to-learner nonverbal immediacy were examined for influence on the same outcome variables as listed above. This regression established the relationship between these predictor variables and four outcome variables, with affect for content $R^2 = .19, p < .001$; affect for behavior $R^2 = .27, p < .001$; affect for instructor $R^2 = .19, p < .001$; (see Table 6), and cognitive learning loss $R^2 = .08, p < .001$ (see Table 7).

The second set of this second step of regressions established the relationship between the student predictor variables and the four outcome variables, with affect for content $\Delta R^2 = .11, p < .001$; affect for behavior $\Delta R^2 = .03, p < .001$; affect for instructor $\Delta R^2 = .04, p < .01$; (see Table 6), and cognitive learning loss $\Delta R^2 = .01, p < .05$; (see Table 7). State motivation served as mediating the influence of one or more predictor variables on all outcome variables tested. However, as noted on Tables 6 and 7, the influences of learner-to-learner verbal and nonverbal immediacy were only partially mediated by state motivation for some outcome variables.
CHAPTER 6
GENERAL DISCUSSION, LIMITATIONS, AND FUTURE DIRECTIONS

The results of this study show learner-to-learner immediacy as functioning similarly at times to teacher-to-student immediacy in its influence on student state motivation to learn, affective learning, and perceptions of cognitive learning loss (see Figures 2 and 3). Thus established as a force capable of impacting both student motivation and learning outcomes, these learner immediacy behaviors could greatly affect new communication models in common educational settings and provide a solid foundation for further research in the student as sender and learner-to-learner directions.

Trait Motivation

Student motivation to learn may be either Trait (generalized) or State (specific). There is a similar relationship between trait motivation and student affect for content in both the teacher-to-student (see Table 4) and learner-to-learner (see Table 6) immediacy models. In both cases, the influence of trait motivation on affect for content is fully mediated by state motivation. However, trait motivation’s influence on affective behavioral learning is only partially mediated by state motivation in both the teacher and learner immediacy models. However, trait motivation does not directly influence student affect for instructor in the teacher model, but in the learner immediacy model the influence of trait motivation on student affect for instructor is fully mediated by state motivation. Trait motivation was not a significant predictor of cognitive learning loss in the teacher immediacy model (see Table 5), but was a significant predictor in the learner immediacy model (see Table 7). Also in the learner model, trait motivation was fully mediated by state motivation.
Verbal Immediacy

Verbal immediacy refers to the verbal communication behaviors used by an individual to influence perceptions of closeness between communicators (Mehrabian, 1966a). In the teacher (see Table 4) immediacy model, the influence of verbal immediacy on student affect for content is fully mediated by student state motivation, but no significant relationship exists between verbal immediacy and affect for content in the learner immediacy model (see Table 6). The direct influence of teacher verbal immediacy on affective behavioral learning is partially mediated by state motivation, whereas student verbal immediacy does not directly influence student affect for behavioral learning. In both the teacher and learner models, the influence of verbal immediacy on student affect for instructor is partially mediated by state motivation. The influence of teacher verbal immediacy on student cognitive learning is partially mediated through state motivation (see table 5), showing a direct relationship. As teacher verbal immediacy increased, perceptions of cognitive learning loss diminished. The same, however, cannot be said of learner-to-learner verbal immediacy (see Table 7). Results indicate the influence of learner-to-learner verbal immediacy on student perceptions of cognitive learning loss as fully mediated by state motivation, thus showing an indirect relationship.

Nonverbal Immediacy

Nonverbal immediacy is comprised of those communicative behaviors which employ wordless messages to influence the perceptions of closeness between individuals (Richmond et al., 1987). In both the teacher (see Table 4) and learner (see Table 6) immediacy models, the influence of nonverbal immediacy on student affect for content is partially mediated by state motivation. Nonverbal immediacy was shown in both models to significantly influence student
affective content learning independently of state motivation. Also in both models, nonverbal immediacy’s influence on student affective behavioral learning is partially mediated by state motivation. The influence of teacher immediacy on affect for instructor is not mediated by state motivation, and no significant relationship exists between student nonverbal immediacy and student affect for instructor. Neither teacher (see Table 6) nor learner-to-learner (see Table 8) nonverbal immediacy showed a significant influence on student perceptions of cognitive learning loss. Rodriguez et al. (1996) experienced similar results when testing the influence of immediacy on cognitive learning, and argued for the reconsideration of the current, and most common, measure of cognitive learning loss and possible development of a “more thorough and thoughtfully constructed assessment” (p. 303) in its place.

Implications for Immediacy Research

Previous researchers examining educational immediacy have focused their collective gaze solely on the behaviors enacted by teachers and the influences thereof on student motivation to learn and learning outcomes (Anderson et al., 1981; Christophel, 1990; Frymier, 1994; Gorham, 1988; Richmond et al., 1987; Rodriguez et al., 1996). Through their efforts, teacher verbal and nonverbal immediacy has been shown to directly influence student state motivation (Frymier, 1994), student affective learning (Gorham, 1988), the three subcategories of affective learning: content, behavioral, and instruction-based (Christophel, 1990), and student perceptions of cognitive learning (Richmond et al., 1987). Without the achievements of these and other scholars, this project would not exist. This project is by no means a criticism of their labor; rather, it is the natural extension of their stated intentions: to increase the efficacy of instructional communication and provide better learning environments for both teachers and students.
Multiple similarities exist between previous research and that of this project. Almost all the literature used to support the potential of learner-to-learner as an influential force within the classroom arises from research executed primarily in college environments. This is to be expected, as the majority of scholars have ready access to participants in that venue. The same is true of this project, which could account for other similarities occurring throughout its methodology and results. College students prove excellent fodder for educational research, as they are more aware of themselves as learners than primary or secondary students. An intriguing prospect, however, would be the relocation of teacher immediacy research to other levels of education where possible. As college students come first through primary and secondary schools before entering institutions of higher learning, it is probable the results of similar studies enacted in these lower educational levels would mirror those attained on this present one, but this hypothesis must be tested before such a parallel can be assumed.

In accord with Frymier’s (1994) findings of trait motivation and teacher verbal and nonverbal immediacy as mediated by student state motivation in their influence on affective and cognitive learning, this project shows learner verbal and nonverbal immediacy as functioning in a like manner. Frymier utilized path analysis to test two models focused on teacher immediacy, with the motivation model (described above) showing a higher chi-square than the learning model (with only trait motivation as mediated by state motivation). Frymier, however, collapsed the subcategories of affective learning instead of keeping them separate in the analysis, and did not find significant results in regards to student perceptions of cognitive learning loss. In contrast to this approach, though similar in findings, is Christophel’s (1990) experiment, which used multiple regression analyses and preserved the subcategories of affective learning as separate entities. These subcategories were maintained in this project, and to good purpose, as each
category functioned differently in relation to the treatments of teacher and learner verbal and nonverbal immediacy.

Rodriguez et al. (1996) posited an alternative explanation to Frymier’s motivation model (1994) for the influence of teacher immediacy on student learning outcomes. After showing affective learning as the mediating variable between teacher nonverbal immediacy and student cognitive learning, the researchers called to the instructional communication discipline for “a more careful consideration of the conceptual and operational…constructs examined in this study” (p. 303). The introduction of learner-to-learner immediacy into the discipline as a force which impacts all of the constructs mentioned by Rodriguez et al. is an answer to this call, simultaneously highlighting and clarifying the strictures set by only including teacher immediacy behaviors in models of educational immediacy.

Not only does learner-to-learner immediacy contribute a new vein of study for instructional communication scholars, it goes beyond existing measures of educational immediacy by adding numerous new items to the conversation between teachers and students in the classroom. In Study II of this project, several items on Christophel’s (1990) teacher immediacy measure were altered by the insertion of the word ‘student’ in place of the word ‘teacher’ at every occurrence thereof. Many of the new items added to the Learner-to-Learner Immediacy Scales could be treated modified to improve existing teacher immediacy measures. Items such as “Appear interested in or listen to comments made by other students” (see Table 1) could, by mere removal of the word ‘other,’ be added to the current list of teacher immediacy behaviors. Other items, like “Contribute, through comments, to a comfortable and safe learning environment” (see Table 1) would require no alteration before inclusion in existing measures and might yield exciting new dimensions to overall understandings of teacher-to-student immediacy.
Implications for Collaborative Learning

Before the confines of the traditional approach to education can be breached and a move
to a more collaborative approach to learning realized, the concept of students as capable co-
creators of knowledge must be accepted throughout the educational community. This project acts
to facilitate such a shift through its focus on learners as influential forces on motivation and
learning within the classroom environment. The role of learners is not limited to being mere
receivers of information, but responsible and contributing members of a learning community
who serves as both inquiring minds and productive peers.

Results of the various studies throughout this project indicate education functioning as a
social experience through the model of learner-to-learner immediacy. Socially based educational
settings operate using a collaborative, cooperative, or active learning method. These methods
allow for a more experiential learning environment than the process-product approach to
education (Dewey, 1938). Knowing how the learner aspect of the classroom environment
influences the learning process is not an ends, however. Rather, it is a means to better understand
the roles of both students and teachers, thus offering insight to what the education system at large
must provide its members in order to serve their educational needs.

In his critique of the “banking concept of education” (p. 72), Freire (2000) interprets the
traditional, process-product approach to education as lacking agency on the behalf of students.
According to Freire, praxis is “the reflection and action which truly transform[s] reality [and] is
the source of knowledge and creation” (p. 100). To truly achieve praxis, it is not enough for
students to unconsciously contribute to the atmosphere of learning. Instead, they must be aware
of their contributions and able to reflect on the connections thereof to learning as a whole. With
the institution of the learner-to-learner model of immediacy and its demonstration of students as
active variables influencing learning in the classroom environment, classrooms in which learner-to-learner immediacy takes place can no longer be categorized as absolutely traditional. This project, then, has taken the critical and qualitative work of Dewey, Freire, hooks, and others beyond educational theory and what ‘should’ occur in the classroom to the quantifiable realm of what can and does occur in the collaborative classroom.

Limitations

One limitation regarding this project stems from the conscription process used to enlist research subjects. As the compensation offered for participation was extra credit in courses used for recruitment, only students enrolled in courses willing to offer extra credit elected to participate. Had faculty in other disciplines been asked to offer extra credit for participation in this project, a larger and more diverse number of students may have contributed their experiences to this research. Though students were instructed to respond to the surveys while thinking of the class they took immediately prior to the class for which they were receiving extra credit, so as to diversify possible educational areas contributing to the study, enlisting other disciplines could only fortify the results achieved. Should similar research occur in the future, efforts to recruit faculty assistance from other disciplines which also utilize collaborative learning environments could serve to strengthen the generalizability of the results of this project.

In hindsight, it may have been beneficial to administer the learning measures used in Study III at a later point in the long semester. This study was conducted during the fifth week of the semester due to external time constraints not under the control of the researcher or participants involved. Christophel (1990) administered her measure at the half-way mark in a normal long semester, to allow “sufficient time for development of student motivation…for
teachers’ immediacy behavior patterns to emerge…and for students to make a reasonable assessment…of their own progress” (p. 326). As learner-to-learner immediacy has been shown through this project to mimic teacher-to-student immediacy, it would behoove future research dealing with learner-to-learner immediacy to occur at a later point in the semester than this project was able to.

Another limitation possibly impacting the results of this study was clarity of wording in the instructions accompanying the various surveys given to students. On numerous occasions, subjects asked questions while completing the surveys, and this was not unexpected when considering the number of participants involved. Instructions were immediately clarified for all participants who asked, but it is impossible to know if students who did not ask questions felt they correctly understood the instructions or were merely hesitant to ask for assistance. For future purposes of the Learner-to-Learner Immediacy Scale, all instructions will be reviewed and, where necessary, altered, to facilitate increased clarity.

In an ideal research situation, all classes from which participants are garnered would also be open to ethnographic field observations using an observer-as-participant design. This addition to the research process would offer clarification of student reports on learner-to-learner immediacy, as well as the opportunity to examine the teacher-to-student behaviors occurring and make comparisons between the two models. While several faculty opened their classrooms to observation for Study I, there was not sufficient time for the over 40 classrooms involved in Study III to receive repeat observations. A project of that grand a scale would require, at the least, additional researchers to take part in the observation process, as well as assistance in transcribing field notes, trained coders, and a code book. Should a research situation as described above become available, the potential implications are staggering. Future researchers would be
able to study how a particular instructor communicator style leads to various learner
communicator styles, map the influences of teacher verbal and nonverbal immediacy on student
verbal and nonverbal immediacy as well as motivation and learning, and even make
recommendations for which immediacy behaviors to employ in a given classroom environment.

The results of this project serve multiple purposes. Not only do they clarify the
communication relationships occurring within the learning environment and highlight the
importance of learners in contributing to their own learning and the learning of others, they add
an entirely new construct to instructional communication literature and advance new avenues for
research within this and other communication disciplines.
Table 1

Learner-to-Learner ImmediacyBehaviors

<table>
<thead>
<tr>
<th></th>
<th>Verbal Immediacy Items</th>
<th>Nonverbal Immediacy Items</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Positive</strong></td>
<td>Respond appropriately to questions from others (teacher or students).</td>
<td>Take notes when teacher is talking.</td>
</tr>
<tr>
<td></td>
<td>Volunteer to speak without prompting from the teacher.</td>
<td>Take notes when students are talking.</td>
</tr>
<tr>
<td></td>
<td>Contribute valuable comments to the overall learning environment.</td>
<td>Raise their hands to indicate a desire to speak.</td>
</tr>
<tr>
<td></td>
<td>Contribute, through comments, to a comfortable and safe learning environment.</td>
<td>Demonstrate a willingness to help other students.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Contribute, through body language, to a comfortable/ safe classroom environment.</td>
</tr>
<tr>
<td><strong>Negative</strong></td>
<td>Complain or whine in response to instructions from the teacher.</td>
<td>Use computers or cell phones while teacher is talking.</td>
</tr>
<tr>
<td></td>
<td>Talk while the instructor is talking.</td>
<td>Use computers or cell phone while other students are talking.</td>
</tr>
<tr>
<td></td>
<td>Talk while other students are talking.</td>
<td>Do not appear interested in comments made by other students.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Demonstrate a dismissive attitude towards the contributions of other students.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Engage in behavior which is distracting to other students or the class as a whole.</td>
</tr>
</tbody>
</table>
Table 2

*Student Verbal Immediacy Behavior Component Matrix*

<table>
<thead>
<tr>
<th>Items</th>
<th>Components</th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Uses personal examples or talk about experiences they have had outside of class</td>
<td>.567</td>
<td>.132</td>
<td>-.342</td>
<td>-.041</td>
<td>.102</td>
</tr>
<tr>
<td>Asks questions or encourage other students to talk</td>
<td>.600</td>
<td>.479</td>
<td>.236</td>
<td>-.023</td>
<td>.025</td>
</tr>
<tr>
<td>Get into discussions based on something another student brings up unrelated to lesson</td>
<td>.659</td>
<td>-.175</td>
<td>-.370</td>
<td>.255</td>
<td>.141</td>
</tr>
<tr>
<td>Use humor in the class in a positive way</td>
<td>.611</td>
<td>.147</td>
<td>-.201</td>
<td>-.164</td>
<td>.025</td>
</tr>
<tr>
<td>Make rude or inappropriate remarks to other students</td>
<td>-.365</td>
<td>.548</td>
<td>.067</td>
<td>-.257</td>
<td>.297</td>
</tr>
<tr>
<td>Have initiated conversations with me before, after, or outside of class</td>
<td>.417</td>
<td>.007</td>
<td>-.246</td>
<td>-.362</td>
<td>.426</td>
</tr>
<tr>
<td>Refer to class as “my” class or what “I” am doing</td>
<td>-.303</td>
<td>-.193</td>
<td>.369</td>
<td>.532</td>
<td>.217</td>
</tr>
<tr>
<td>Refer to class as “our” or what “we” are doing</td>
<td>.330</td>
<td>-.349</td>
<td>.421</td>
<td>.142</td>
<td>.566</td>
</tr>
<tr>
<td>Ask questions that solicit viewpoints or opinions</td>
<td>.772</td>
<td>.080</td>
<td>.079</td>
<td>.228</td>
<td>-.086</td>
</tr>
<tr>
<td>Praise or support other students’ work, actions, or comments</td>
<td>.685</td>
<td>.298</td>
<td>.058</td>
<td>-.030</td>
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<tr>
<td>Criticize of point out faults in students’ work, actions, or comments</td>
<td>-.425</td>
<td>.290</td>
<td>.221</td>
<td>-.430</td>
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<td>Will have discussions about things unrelated to the class with individuals or class as a whole</td>
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<tr>
<td>Respond appropriately to questions from others (teacher and students)</td>
<td>.508</td>
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<td>.083</td>
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<td>-.070</td>
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<tr>
<td>Complain or whine in response to instructions from the teacher</td>
<td>-.138</td>
<td>.547</td>
<td>.283</td>
<td>.299</td>
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<tr>
<td>Volunteer to speak without prompting from the teacher</td>
<td>.650</td>
<td>.117</td>
<td>.105</td>
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<tr>
<td>Talk while the instructor is talking</td>
<td>-.267</td>
<td>.770</td>
<td>-.332</td>
<td>.222</td>
<td>-.021</td>
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<tr>
<td>Talk while other students are talking</td>
<td>-.238</td>
<td>.752</td>
<td>-.305</td>
<td>.353</td>
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<tr>
<td>Contribute valuable comments to the overall learning environment</td>
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<td>.275</td>
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<td>Contribute, through comments, to a comfortable and safe learning environment</td>
<td>.686</td>
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Table 3

*Student Nonverbal Immediacy Behavior Rotated Component Matrix*

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<th>Components</th>
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<tbody>
<tr>
<td></td>
<td>1</td>
</tr>
<tr>
<td>NV1 Use monotone/dull voice when talking to the class</td>
<td>.065</td>
</tr>
<tr>
<td>NV2 Use gestures or appear animated when talking to the class</td>
<td>.602</td>
</tr>
<tr>
<td>NV3 Make eye contact with other students while talking</td>
<td>.809</td>
</tr>
<tr>
<td>NV4 Smile at other students while talking</td>
<td>.769</td>
</tr>
<tr>
<td>NV5 Have a very tense body position when talking to other students</td>
<td>.179</td>
</tr>
<tr>
<td>NV6 Have a very relaxed body position when talking to other students</td>
<td>.829</td>
</tr>
<tr>
<td>NV7 Use a variety of vocal expressions when talking to other students</td>
<td>.764</td>
</tr>
<tr>
<td>NV8 Take notes when the teacher is talking</td>
<td>-.247</td>
</tr>
<tr>
<td>NV9 Take notes when other students are talking</td>
<td>.159</td>
</tr>
<tr>
<td>NV10 Use computers or cell phones while teacher is talking</td>
<td>.018</td>
</tr>
<tr>
<td>NV11 Use computers or cell phones while other students are talking</td>
<td>.118</td>
</tr>
<tr>
<td>NV12 Raise their hands to indicate a desire to speak</td>
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</tr>
<tr>
<td>NV13 Appear interested in or listen to comments made by other students</td>
<td>.377</td>
</tr>
<tr>
<td>NV14 Do not appear interested in comments made by other students</td>
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<tr>
<td>NV15 Demonstrate a willingness to help other students</td>
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</tr>
<tr>
<td>NV16 Demonstrate a dismissive attitude towards the contributions of other students</td>
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<tr>
<td>NV17 Engage in behavior which is distracting to other students or the class as a whole</td>
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</tr>
<tr>
<td>NV18 Contribute, through body language, to a safe and comfortable classroom environment</td>
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Table 4

Summary of Regression Analysis for Students’ Perception of Teacher Verbal and Nonverbal Immediacy Behaviors Predicting Affective Learning

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* \( p < .01 \); ** \( p < .001 \).

Note. Content: \( R^2 = .22 \ (p < .001) \) for Step 1; \( \Delta R^2 = .11 \ (p < .001) \) for Step 2; Behavioral: \( R^2 = .32 \ (p < .001) \) for Step 1; \( \Delta R^2 = .03 \ (p < .001) \) for Step 2; Instructor: \( R^2 = .48 \ (p < .001) \) for Step 1; \( \Delta R^2 = .01 \ (p < .01) \) for Step 2.

\( sr^2 \) is squared semi-partial correlation.
Table 5

Summary of Regression Analysis for Students’ Perception of Teacher Verbal and Nonverbal Immediacy Behaviors Predicting Cognitive Learning

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*p < .01; **p < .001.

Note. R^2 = .48 (p < .001) for Step 1; ΔR^2 = .01 (p < .01) for Step 2

sr^2 is squared semi-partial correlation.
Table 6

Summary of Regression Analysis for Students’ Perception of Student Verbal and Nonverbal Immediacy Behaviors Predicting Affective Learning

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</table>

* p < .01; ** p < .001.

Note. Content: $R^2 = .19$ (p < .001) for Step 1; $\Delta R^2 = .11$ (p < .001) for Step 2; Behavioral: $R^2 = .27$ (p < .001) for Step 1; $\Delta R^2 = .03$ (p < .001) for Step 2; Instructor: $R^2 = .19$ (p < .001) for Step 1; $\Delta R^2 = .04$ (p < .01) for Step 2. $sr^2$ is squared semi-partial correlation.
Table 7
Summary of Regression Analysis for Students’ Perception of Student Verbal and Nonverbal Immediacy Behaviors Predicting Cognitive Learning

<table>
<thead>
<tr>
<th>Variable</th>
<th>B</th>
<th>SE B</th>
<th>β</th>
<th>sr²</th>
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* p < .01; ** p < .001.

Note. R² = .08 (p < .001) for Step 1; ΔR² = .01 (p < .05) for Step 2

sr² is squared semi-partial correlation.
Table 8

Summary of Regression Analysis for Students’ Perception of Teacher Verbal and Nonverbal Immediacy and Student Verbal and Nonverbal Immediacy Behaviors Predicting Affective Learning

<table>
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* p < .01; ** p < .001.

Note. Content: $R^2 = .25$ (p < .001) for Step 1; $\Delta R^2 = .09$ (p < .001) for Step 2; Behavioral: $R^2 = .35$ (p < .001) for Step 1; $\Delta R^2 = .02$ (p < .01) for Step 2; Instructor: $R^2 = .48$ (p < .001) for Step 1; $\Delta R^2 = .02$ (p < .01) for Step 2. $sr^2$ is squared semi-partial correlation.
Table 9

Summary of Regression Analysis for Students’ Perception of Teacher Verbal and Nonverbal Immediacy and Student Verbal and Nonverbal Immediacy Behaviors Predicting Cognitive Learning

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* p < .01; ** p < .001.

Note. $R^2 = .14 (p < .001)$ for Step 1; $\Delta R^2 = .01 (p > .05)$ for Step 2

$sr^2$ is squared semi-partial correlation.
Table 10

*Means, Deviations, and Correlations among Variables in Study 1*

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* p < .05, ** p < .01.
Figure 1. The motivation model (Frymier, 1994).
Figure 2. Teacher-to-student immediacy, motivation and learning. ($p < .001$)
Trait Motivation

Student Verbal Immediacy

Student Nonverbal Immediacy

State Motivation

Affective Content

Affective Behavior

Affective Instructor

Cognitive Learning

Figure 3. Learner-to-learner immediacy, motivation and learning. (p < .001)
APPENDIX A

FREIRE’S BANKING CONCEPT OF EDUCATION
Banking Education maintains and even stimulates the [teacher-student] contradiction through the following attitudes and practices, which mirror oppressive society as a whole:

a. The teacher teaches and the students are taught.

b. The teacher knows everything and the students know nothing.

c. The teacher thinks and the students are thought about.

d. The teacher talks and the students listen—meekly.

e. The teacher disciplines and the students are disciplined.

f. The teacher chooses and enforces his choice, and the students comply.

g. The teacher acts and the students have the illusion of acting through the action of the teacher.

h. The teacher chooses the program content and the students, who were not consulted, adapt to it.

i. The teacher confuses the authority of knowledge with his or her own professional authority, which she and he sets in opposition to the freedom of the students.

j. The teacher is the Subject (emphasis in original) of the learning process, while the pupils are merely objects.

(Freire, 2000, p. 73)
APPENDIX B

NONVERBAL IMMEDIACY BEHAVIOR ITEMS
1. Sits behind desk while teaching. *
2. Gestures while talking to the class.
3. Uses monotone/dull voice when talking to the class. *
4. Looks at the class while talking.
5. Smiles at the class while talking.
6. Has a very tense body position while talking to the class. *
7. Touches students in the class.
8. Moves around the classroom while teaching.
9. Sits on a desk or in a chair while teaching. *
10. Looks at board or notes while talking to the class. *
11. Stands behind a podium or desk while teaching. *
12. Has a very relaxed body position while talking to the class.
13. Smiles at individual students in the class.
14. Uses a variety of vocal expressions when talking to the class.

Lines marked with an * are presumed to be *non*immediate verbal and non-verbal items. Items reflected for scoring.
APPENDIX C

TRAIT/STATE MOTIVATION SCALES*
Trait Motivation Scale

Directions: These items are concerned with how you feel in general about taking classes at the University. Please circle the number toward either word which best describes your feelings. Note that in some cases the most positive score is 1 while in other cases it is a 7.

State Motivation Scale

These items are concerned with how you feel about the class you take immediately preceding this class (Study One) or this specific class (Study Two). Please circle the number toward either word which best represents your feelings. Note that in some cases the most positive score is “1” while in other cases it is “7.”

(1) Motivated  1  2  3  4  5  6  7    Unmotivated*
(2) Interested  1  2  3  4  5  6  7    Uninterested*
(3) Involved   1  2  3  4  5  6  7    Uninvolved*
(4) Not stimulated  1  2  3  4  5  6  7    Stимulated
(5) Don’t want to study  1  2  3  4  5  6  7    Want to study
(6) Inspired    1  2  3  4  5  6  7    Uninspired*
(7) Unchallenged  1  2  3  4  5  6  7    Challenged
(8) Uninvigorated  1  2  3  4  5  6  7    Invigorated
(9) Unenthused  1  2  3  4  5  6  7    Enthused
(10) Excited    1  2  3  4  5  6  7    Not excited*
(11) Aroused     1  2  3  4  5  6  7    Not aroused*
(12) Not fascinated  1  2  3  4  5  6  7    Fascinated

Lines marked with an * show identical items were used for both Motivation Scales. Item reflected for scoring.
APPENDIX D

TEACHER IMMEDIACY BEHAVIOR SCALE
Below are a series of descriptions of things some teachers have been observed doing or saying in some classes. Please respond to the questions in terms of the class you take immediately preceding this class (Study One) or the class you are in now (Study Two). For each item, circle the number 0-4 which indicates the behavior of the teacher in that class.

Scale: Never = 0          Rarely = 1          Occasionally = 2          Often =3              Very Often =4

Verbal Items:

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 the 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 “my” class or what “I” am doing. *
10. Refers to class as “our” class or what “we” are doing.
11. Provides feedback on my individual work through comments on papers, oral discussions, etc.
12. Calls on students to answer questions even if they have not indicated that they want to talk. *
13. Asks how students feel about an assignment, due date, or discussion topic.
14. Invites students to telephone or meet with him/her outside of class if they have questions or want to discuss something.
15. Asks questions that have specific, correct answers. *
16. Asks questions that solicit viewpoints or opinions.
17. Praises students’ work, actions, or comments.
18. Criticizes or points out faults in students’ work, actions, or comments. *
19. Will have discussions about things unrelated to class with individual students or with the class as a whole.
20. Is addressed by his/her first name by the students.

Nonverbal Items:

24. Sits behind desk while teaching. *
25. Gestures while talking to the class.
26. Uses monotone/dull voice when talking to the class. *
27. Looks at the class while talking.
28. Smiles at the class while talking.
29. Has a very tense body position while talking to the class. *
30. Touches students in the class.
31. Moves around the classroom while teaching.
32. Sits on a desk or in a chair while teaching. *
33. Looks at board or notes while talking to the class. *
34. Stands behind a podium or desk while teaching. *
35. Has a very relaxed body position while talking to the class.
36. Smiles at individual students in the class.
37. Uses a variety of vocal expressions when talking to the class.

Lines marked with an * are presumed to be non-immediate verbal and non-verbal items. Items reflected for scoring.
APPENDIX E

COGNITIVE AND AFFECTIVE LEARNING SCALES
Cognitive Learning Scale

1. On a scale of 0-9, how much are you learning in the class immediately preceding this class, with 0 meaning you learned nothing and 9 meaning you learned more than in any other class you’ve had? (Circle one)

   0 1 2 3 4 5 6 7 8 9

2. On a scale of 0-9, how much do you think you could have learning in the class immediately preceding this class had you had the ideal instructor, with 0 meaning you could have learned nothing and 9 meaning you could have learned more than in any other class you’ve had? (Circle one)

   0 1 2 3 4 5 6 7 8 9

Affective Learning Scale

Using the following scales, evaluate the class you are in immediately preceding this class. Please circle the number for each item which best represents your feelings.

My attitude about the content of this course:

1. Good 1 2 3 4 5 6 7 Bad*
2. Worthless 1 2 3 4 5 6 7 Valuable
3. Fair 1 2 3 4 5 6 7 Unfair*
4. Positive 1 2 3 4 5 6 7 Negative*

My attitude about the behaviors recommended in this course:

5. Good 1 2 3 4 5 6 7 Bad*
6. Worthless 1 2 3 4 5 6 7 Valuable
7. Fair 1 2 3 4 5 6 7 Unfair*
8. Positive 1 2 3 4 5 6 7 Negative*

My attitude about the instructor of this course:

9. Good 1 2 3 4 5 6 7 Bad*
10. Worthless 1 2 3 4 5 6 7 Valuable
11. Fair 1 2 3 4 5 6 7 Unfair*
12. Positive 1 2 3 4 5 6 7 Negative*

My likelihood of actually attempting to engage in the behaviors recommended in this course:
13. Likely 1 2 3 4 5 6 7 Unlikely*
14. Impossible 1 2 3 4 5 6 7 Possible
15. Probable 1 2 3 4 5 6 7 Improbable*
16. Would 1 2 3 4 5 6 7 Would Not*

My likelihood of actually enrolling in another course of related content, if I had the choice and my schedule permits: (if you are graduating, assume you would still be here.)
17. Likely 1 2 3 4 5 6 7 Unlikely*
18. Impossible 1 2 3 4 5 6 7 Possible
19. Probable 1 2 3 4 5 6 7 Improbable*
20. Would 1 2 3 4 5 6 7 Would Not*

The likelihood of my taking another course with the teacher of this course, if I have a choice, is: (if you are graduating, assume you would still be here.)
21. Likely 1 2 3 4 5 6 7 Unlikely*
22. Impossible 1 2 3 4 5 6 7 Possible
23. Probable 1 2 3 4 5 6 7 Improbable*
24. Would 1 2 3 4 5 6 7 Would Not*

*Items reflected for scoring.
Thank you for your participation in this survey. Please note that it is voluntary and anonymous. All responses given will be kept confidential and used only as data in this research study. Please try to answer each question completely and to the best of your ability.

Directions: Please keep your answers specific to the class session in which you receive this survey. Think of your fellow students in this course, and the communication behaviors they use which affect how you feel towards the class overall, both as a learning environment and as a social environment. Please answer the following questions with the above statements in mind.

1. What do you have in common with the other students in this class?

2. In what contexts do you interact with other students from this class? (e.g., in class only, via email, text messaging, studying together outside of class, etc.)

3. Overall, do you like coming to this class? Why or why not?

4. Think of your interactions with the other students in this class. Describe their communication behaviors (both verbal and nonverbal) which impact the classroom experience in a positive manner.

5. Think of your interactions with the other students in this class. Describe their communication behaviors (both verbal and nonverbal) which impact the classroom experience in a negative manner.

6. Please list your age, sex, and ethnicity. (For demographic purposes only)

If you have any additional comments you think might be helpful concerning this survey, please write them on the back of this sheet. Thank you again for your time and participation.
APPENDIX G

LEARNER-TO-LEARNER IMMEDIACY BEHAVIOR SCALE (STUDY II)
Below are a series of descriptions of things some students have been observed doing or saying in some classes. Respond to the questions in terms of a class you took last semester. Circle the number 0-4 to show the frequency of each behavior of the students in that class.

Verbal Items:

Scale: Never = 0    Rarely = 1    Occasionally = 2    Often = 3    Very Often = 4

1. Use personal examples or talk about experiences they have had outside of class.
2. Ask questions or encourage other students to talk.
3. Get into discussions based on something another student brings up even when this doesn’t seem to be part of the lesson.
4. Use humor in the class in a positive way.
5. Make rude or inappropriate remarks in response to other students.*
6. Have initiated conversations with me before, after, or outside of class.
7. Refer to class as “my” class or what “I” am doing.*
8. Refer to class as “our” class or what “we” are doing.
9. Ask questions that solicit viewpoints or opinions.
10. Praise or support other students’ work, actions, or comments.
11. Criticize or point out faults in students’ work, actions, or comments.*
12. Will have discussions about things unrelated to class with individual students or with the class as a whole.
13. Respond appropriately to questions from others (teacher or students).
14. Complain or whine in response to instructions from teacher.*
15. Volunteer to speak without prompting from teacher.
16. Talk while the instructor is talking.*
17. Talk while other students are talking.*
18. Contribute valuable comments to the overall learning environment.
19. Contribute, through comments, to a comfortable and safe classroom environment.

Nonverbal Items:

1. Use monotone/dull voice when talking to the class.*
2. Use gestures or appear animated when talking to the class.
3. Make eye contact with other students while talking.
4. Smile at other students while talking.
5. Have a very tense body position when talking to other students.*
6. Have a very relaxed body position when talking to other students.
7. Use a variety of vocal expressions when talking to other students.
8. Take notes when the teacher is talking.
9. Take notes when other students are talking.
10. Use computers or cell phones while teacher is talking.*
11. Use computers or cell phones while other students are talking.*
12. Raise their hands to indicate a desire to speak.
13. Appear interested in or listen to comments made by other students.
14. Do not appear interested in comments made by other students.*
15. Demonstrate a willingness to help other students.
16. Demonstrate a dismissive attitude towards the contributions of other students.*
17. Engage in behavior which is distracting to other students or the class as a whole.*
18. Contribute, through body language, to a comfortable/safe classroom environment.

Lines marked with an * are presumed to be non-immediate verbal and non-verbal items.
APPENDIX H

LEARNER-TO-LEARNER IMMEDIACY BEHAVIOR SCALE (REVISED)
Please read through all of the directions before beginning this survey. If you are unclear on any of the directions, please ask the researcher to clarify. Below are a series of descriptions of things some students have been observed doing or saying in some classes. Think of the class you are in immediately before the class for which you are taking this survey. If you are in no classes which occur earlier in your school week than this class, think of the class you take immediately after the class for which you are taking this survey. Please write the name or course number for that class here: ______________________. Please respond to the questions in terms of that class. For each item, circle the number 0-4 which indicates the frequency of each behavior of the students in that class. To clarify, add the phrase “In this course, my classmates:” to the beginning of each item.

Verbal Items:

Scale: Never = 0 Rarely = 1 Occasionally = 2 Often =3 Very Often =4

1. Use personal examples or talk about experiences they have had outside of class.
2. Ask questions or encourage other students to talk.
3. Get into discussions based on something another student brings up even when this doesn’t seem to be part of the lesson.
4. Use humor in the class in a positive way.
5. Ask questions that solicit viewpoints or opinions.
6. Praise or support other students’ work, actions, or comments.
7. Respond appropriately to questions from others (teacher or students).
8. Volunteer to speak without prompting from the teacher.
9. Contribute valuable comments to the overall learning environment.
10. Contribute, through comments, to a comfortable and safe classroom environment.

Nonverbal Items:

11. Use monotone/dull voice when talking to the class.*
12. Use gestures or appear animated when talking to the class.
13. Make eye contact with other students while talking.
14. Smile at other students while talking.
15. Have a very tense body position when talking to other students.*
16. Have a very relaxed body position when talking to other students.
17. Use a variety of vocal expressions when talking to other students.
18. Appear interested in or listen to comments made by other students.
19. Do not appear interested in comments made by other students.*
20. Demonstrate a willingness to help other students.
21. Engage in behavior which is distracting to other students or the class as a whole.*
22. Contribute, through body language, to a comfortable/safe classroom environment.

Lines marked with an * are presumed to be non-immediate verbal and non-verbal items.
REFERENCES


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Sprague, J. (1993). Retrieving the research agenda for communication education: Asking the pedagogical questions that are “embarrassments to theory.” *Communication Education, 42*, 106-122.


