The Impact of Teacher Immediacy on Student Participation:
An Objective Cross-Disciplinary Examination

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The current study examined how immediacy behaviors of college professors influence student participation. While these claims have been studied in the past, this investigation examined a cross-disciplinary sample and employed a more objective methodology, classroom observation. It was hypothesized that professors who showed greater immediacy would have higher levels of classroom participation. Results indicated that teachers who were more immediate had both greater frequency and breadth of classroom participation. More specifically, warmth of the professor (a composite of four immediacy behaviors) was a primary factor in explaining student participation. Limitations, pedagogical implications, and future directions in immediacy research are discussed.

The college classroom is a place where students learn the knowledge and skills necessary to succeed in life, especially vocationally (Beaman, 1995). For this reason, the information obtained in the college classroom is of particular importance to students, and we expect them to put forth the work necessary to learn successfully. At the same time, we expect the professor to create an environment that engages the learner and ultimately facilitates learning (Weimer, 2002).

Fink (2003) suggests that higher education should rely on "significant learning experiences" (p. 6) to promote student engagement. Indeed, the most positive learning outcomes occur when students are actively participating in the learning experience (Davis, 2009; Mayer, 1998). These outcomes vary, but they include the use of newly obtained knowledge and the practice of a recently learned skill (Fink, 2003). Given the importance of active involvement for learning, it seems appropriate that the classroom be set up in a way that welcomes students to participate. Students are much more likely to participate in an environment where they feel comfortable (Menzel & Carrell, 1999). One of the easiest ways for an educator to create such an environment is to demonstrate immediacy characteristics (Mehrabian, 1972/2007).

Teacher Immediacy

Mehrabian (1972/2007) describes immediacy as the qualities that signal approach and, as a result, increase the "reciprocal sensory stimulations" between individuals (p. 17). In the educational setting, it is the behaviors, both verbal and nonverbal, which seek to reduce the physical and/or psychological gaps between teachers and students (Christophel & Gorham, 1995). Immediacy minimizes the perception of distance and therefore promotes a relational component (Frymier & Houser, 2000). Immediacy behaviors may promote stronger relations because they provide social cues which reinforce the speaker to continue talking and stop

when appropriate (Mehrabian, 1972/2007). In summarizing the behaviors associated with immediacy, Frymier, Shulman, and Houser (1996) describe nonverbal immediacy as "eye contact, smiling, moving close to students, using vocal variety, and using positive gestures" and verbal immediacy as "calling students by name, using personal examples, using humor, and asking for students' opinions" (p. 185).

Research suggests wide-spread benefits of teacher immediacy, including associations with the student's motivation to learn, his or her ability to learn affectively and cognitively, and his or her overall feelings of competence and meaningfulness towards the subject matter (Burroughs, 2007; Frymier et al., 1996; Frymier & Houser, 1998; Houser & Frymier, 2009). If used correctly, immediacy cues can be beneficial when practiced in the classroom (Mehrabian, 1972/2007).

Immediacy characteristics have been shown to be effective even in the short term. Varying nonverbal immediacy characteristics (e.g., eye contact, moving around the room, smiling) of a guest lecturer has shown that students in the high immediacy condition display higher scores on state motivation (i.e., overall attitude associated with the topic of discussion), affective learning (i.e., overall attitude towards the speaker), and cognitive learning (i.e., recall of information from the presentation) than students in the low immediacy condition (Frymier & Houser, 1998).

Similar outcomes have been found when students share perceived cognitive and affective learning and perceived teacher immediacy. Specifically, when students perceive the instructor as demonstrating greater nonverbal immediacy, they perceive greater cognitive learning, a more positive attitude towards the course, and a more positive attitude towards the instructor (Burroughs, 2007). In addition, student teachers also view immediacy behaviors favorably. In a cross-cultural examination, student teachers surveyed in three distinct countries—Japan, Turkey, and the United States—expressed that nonverbal immediacy is an

effective pedagogical strategy and should be an integral part of teaching (Ozmen, 2011).

In short, research has shown that students seem to value and benefit from teacher immediacy behaviors. When teachers are immediate, students are inclined to comply, which likely increases time on tasks, and ultimately results in greater classroom learning (Burroughs, 2007). Immediacy behaviors may be powerful tools in the educational setting because they have been associated with both meaningfulness and impact (Frymier et al., 1996).

Teacher Immediacy and Student Participation

Kelley and Gorham (1988) suggested that immediacy plays such an important role in the classroom because it triggers arousal, which in turn gains the learner's attention. From this increase in attention, the other beneficial elements such as classroom participation, memory and recall, and eventually overall learning result (Christophel & Gorham, 1995; Kelley & Gorham, 1988).

Student participation is especially important in considering the engagement of the learner (Rocca, 2010). The presence of classroom discussion, in particular, suggests the learner is actively involved in the learning process (Fink, 2003). The importance of student engagement has been emphasized in educational practice and is the basis of constructivism. Constructivism views the role of the learner as being actively responsible for building representations of reality instead of simply being told information (Mayer, 1998).While student participation is not the only means of active involvement in the classroom, it is measurable and observable.

Student-perceived teacher immediacy has been found to be related to an increased willingness to talk and participate in class (Menzel & Carrell, 1999; Rocca, 2008). It is suggested that using nonverbal cues such as smiling, nodding, maintaining eye contact, and looking relaxed may all promote student discussion (Davis, 2009). The verbal cue of explicitly inviting participation is also important. The vast majority of students report knowing very early in the semester whether or not participation is wanted based on the influence of the teacher (Karp & Yoels, 1976). Therefore, the actions of the teacher are one of the most important factors in promoting participation (Weaver & Qi, 2005). Because immediacy communicates psychological availability and warmth, it seems that students would be more inclined to feel comfortable around an immediate teacher and therefore participate more frequently (Wilson & Locker, 2007). Immediate teachers are also easier to approach, so students feel that they have more influence in the classroom and in turn are more likely to share their ideas and opinions (Houser & Frymier, 2009).

Objectively Measuring Immediacy

Previous studies examining teacher immediacy have relied on the use of student reported teacher immediacy where students rate past or present professors on different qualities associated with immediacy (Allen, Long, O'Mara, & Judd, 2008; Burroughs, 2007; Christophel & Gorham, 1995; Frymier et al., 1996; Gorham & Zakahi, 1990; Houser & Frymier, 2009; Kearney, Plax, & Wendt-Wasco, 1985; King & Witt, 2009; Menzel & Carrell, 1999; Rocca, 2008; Wilson & Locker, 2007). Rocca (2008) had students report both their self-perceived participation and teacher immediacy behaviors. The relationship was not as strong as anticipated, which was attributed to the students' tendency to participate more than reported.

Many previous studies examining student perceptions have relied on the survey technique to ask students to rate the teacher they had immediately before the administration of the questionnaire (Allen et al., 2008; Christophel & Gorham, 1995; Frymier et al., 1996; Frymier & Houser, 2000; Menzel & Carrell, 1999; Rocca, 2008). While this method is useful for practicality purposes, it may not offer a completely accurate representation of immediacy behaviors. In some cases, the students may have had to report on a professor they had the previous day (Menzel & Carrell, 1999). Because the coursework of many undergraduates is quite extensive, students interact with countless professors both inside and outside of the classroom (Weaver & Qi, 2005). This complex dynamic may hinder the recall of particular teacher characteristics solely within the context of the classroom.

It is also the case that individual differences in students may lead to variations in evaluation that do not necessarily accurately represent immediacy (Allen et al., 2008). In fact, it was found that students who have higher self-perceptions of immediacy view their professors as being less immediate, and individuals who viewed themselves as less immediate attributed problems in classroom communication to the professor's inability to communicate effectively (Allen et al., 2008). Differences in individual perception, therefore, may influence the accuracy of the student-reported immediacy scale. Furthermore, Christophel and Gorham (1995) suggested that more motivated students may rate teacher immediacy differently than less motivated students. As a result, the immediacy scale seems to be highly affected by the individual student and his or her personal tendencies.

In sum, the research that has been conducted on this topic thus far has relied solely on the student self-report, and while these views are important for academic evaluations, they may be biased and therefore not fully accurate. Although complete objectivity is

difficult to achieve, this study sought to obtain a more objective view of teacher immediacy and its impact on student participation through researcher observation of both teacher immediacy and student participation.

Goals and Hypotheses

The current study sought to examine how teacher immediacy behaviors predict and explain student participation. The overall goal of this study was to add to the current literature concerning the important role that teacher immediacy plays in promoting active classroom engagement. It was hypothesized that:

- H1: Higher teacher immediacy behaviors will lead to increased student participation (frequency).
- H2: Higher teacher immediacy behaviors will lead to an increased number of student participants (breadth).

Method

Participants

Participants included 32 professors (16 male; 16 female) from a small liberal arts college in the southeast. Two of the observed classes are not included in data analysis because the formats were not conducive to data collection (i.e., student presentations with student led discussion). All academic disciplines are represented, including Sciences ($n = 6$), Humanities ($n = 13$), and Social Sciences ($n = 11$). Class size (students present during the time of observation) ranged from four to 24 students ($M = 15.8$). A total of 474 students were observed ($n = 192$ male; 282 female). Demographic information was obtained visually; 93% of professors and 96% of students were Caucasian.

Procedure

The classes observed were selected based on the availability of the researcher. An attempt was made to have representation from all academic departments of the institution. The researcher contacted professors through e-mail correspondence and/or verbal communication to invite them to participate. Five professors declined participation. The researcher met with the participants prior to observation to obtain informed consent and schedule an observation date. The researcher specifically asked to observe a "representative class" as determined by the professor.

The day of observation, the researcher usually sat at the front of the class with the desk turned to the side to ensure visibility of students. In some instances, the researcher sat in the back if the class size was small or if the rows of desks were tiered. If the desks were set up in a circle, then the observer simply joined the circle. A classroom map was created beforehand with the basic layout of the desks. The map was used to collect student demographic information and record participation. Information about the professor including demographics, rank and department was also recorded. The academic level of the class was noted along with whether or not it was a general education course.

Measures

Teacher Immediacy

In order to measure teacher immediacy, the Nonverbal Immediacy Scale-Observer Report (NIS-O) created by Richmond, McCroskey, and Johnson (2003) was combined with key aspects of verbal immediacy created by Gorham (1988). Only the elements from the NIS-O that suggest immediacy were included.

The modified scale included gestures, body positions, proximity to speaker, vocal expression, movement, eye contact, facial expression, using student names, using personal examples, displaying humor, and asking for student opinion. In an attempt to maximize objectivity, the eleven items were coded with a general "yes" or "no," indicating presence or absence of the behavior during the observation period. No effort was made to quantify frequency of immediacy behaviors.

After analyzing the immediacy scale post-data collection, three of the eleven items were removed from the list. The first involved the tendency of the professor to use gestures while talking. All professors displayed this immediacy characteristic. The other two involved the professor moving around the room and standing close to the individual who was talking. The ability to exemplify these characteristics is highly dependent on the classroom environment, and we did not want to penalize professors due to limiting physical classroom conditions. Furthermore, professors who sat among their students did not move around the class or stand near the speaker but did seem to show a certain amount of immediacy. Mehrabian and Friar (1969) found that individuals who were seated assumed a more immediate position than those who were not seated, but the scale did not account for this. Therefore, it seemed appropriate to remove this characteristic. The final immediacy scale contained eight behaviors.

Total Immediacy

Total immediacy was a composite of the eight possible immediacy behaviors displayed by the professor. These behaviors included body positions, vocal expression, eye contact, facial expression, using

student names, using personal examples, displaying humor, and asking for student opinion.

Student Participation

Student participation was coded using a scheme developed by Tatum, Schwartz, Schmmoeller, and Perry (in press). Inter-rater reliability was obtained prior to formal data collection and was considered across participation categories (99% agreement) and across participants (87% agreement). The various forms of participation are described below, along with how we combined them.

Verbal participation. Three behaviors, including hand-raising with verbal response (Vr), calling out (Vc), and asking questions (SQ) comprised verbal participation.

Total participation. The three verbal components as well as the behavior of responding in some other way (Vw) encompassed total participation. Vw included willing voluntary behaviors such as nodding and hand-raising for polling purposes. It also included participation in activities such as group-work or student presentations.

Breadth of participation. The breadth of participation was calculated by dividing the total number of participants by the class size.

Frequency of participation. The frequency of participation (i.e., average participation for the class) was calculated by adding across participants in a single class and dividing by class size.

Participation was only coded when the class met in a whole-group setting under the direction of the professor (i.e., not during student presentations, quizzes, or group work). This usually took the form of teacher lectures with the incorporation of student discussion. If the class was taking a quiz, participation was not coded for since the expectation was to remain quiet. During other activities such as group work, the students who participated received a Vw and further coding of group work ceased to occur. This seemed appropriate as the small group setting creates a different dynamic and does not depend as heavily on the particular behaviors of the professor. Furthermore, it was not possible for the researcher to observe all participation during group work. During student presentations, the student giving the presentation received a Vw, but the discussion that was rendered by the student presenter was not coded. If the professor led a discussion after a student presentation then participation was coded. It did not seem appropriate to code participation created by a student led discussion because the study sought to investigate the role of the teacher as a discussion facilitator, not the role of a given student. The researcher kept detailed information about the time of various tasks throughout the class

period and only used times from the teacher-directed setting in calculating participation.

Results

We hypothesized that teacher immediacy would be related to increased student participation in both frequency and breadth. Below, we examine our hypotheses, highlighting significant findings and noting areas warranting further exploration.

Controlling for Meeting Time

Per Tatum et al. (in press), participation amounts were transformed to a standard scale to control for variations in class time. We used a 60-minute scale.

Correlations

Consistent with expectation, the total immediacy score of the professor was positively correlated with the frequency of total student participation, with the frequency of verbal participation, and with student call-outs (see Table 1). Total immediacy was not correlated with breadth of total participation, but did approach significance with breadth of verbal participation ($p = .07$; see Table 1). When considering individual immediacy behaviors, the professor's use of humor and the professor's tendency to ask for the student's opinion correlated the most strongly with student participation (see Table 1).

A correlation matrix examining the relationships among the immediacy characteristics is displayed in Table 2. Asking for student opinion was significantly positively correlated with facial expression. Humor was positively and significantly correlated with body position, eye contact, facial expression, and use of personal examples.

Warmth Component

To better understand how immediacy relates to student participation, the interconnectedness of humor and related immediacy behaviors was tested with a reliability measure, Cronbach's coefficient alpha (Nunnally & Bernstein, 1994). Together, body position, eye contact, facial expression, use of personal examples, and humor rendered an alpha of .67. Removing facial expression, which had the weakest correlation with humor, rendered an alpha of .73. A factor analysis confirmed that body position, eye contact, use of personal examples, and humor comprise a single factor component (see Table 3). With an eigenvalue of 2.26, the principal component analysis indicates a single factor explaining 56.5% of the variance. All four variables were retained in the factor

Table 1
Simple Correlations of Individual Immediacy Behaviors and Student Participation

Immediacy Behaviors	Total Breadth	Verbal Breadth	Total Frequency	Verbal Frequency	Cal Outs
Body position	.03	.19	.24	.23	.27
Vocal expression	.01	.17	.25	.23	.23
Eye Contact	-.11	.30	.19	.23	.25
Facial expression	.23	.15	.21	.20	.21
Use of names	-.14	-.20	-.03	-.05	-.05
Personal examples	.11	.15	.21	.22	.26
Humor	.16	.36*	.31+	.35+	.38*
Asks for opinion	.44*	.38*	.31+	.28	.25
Total immediacy	.18	.34+	.38*	.39*	.42*

*Note. * $p < .05$. + $p < .10$.*

Table 2
Intercorrelations Among Immediacy Behaviors

		1	2	3	4	5	6	7	8
1.	Body position	--	.63**	.52**	-.18	.20	.16	.44*	-.09
2.	Vocal expression	--	--	.20	.08	.20	-.07	.21	-.09
3.	Eye Contact	--	--	--	.02	.14	.25	.52**	-.105
4.	Facial expression	--	--	--	--	.02	15	.40*	.48**
5.	Use of names	--	--	--	--	--	.25	.11	-.11
6.	Personal examples	--	--	--	--	--	--	.59**	.04
7.	Humor	--	--	--	--	--	--	--	.07
8.	Asks for opinion	--	--	--	--	--	--	--	--

*Note. * $p < .05$. **$p < .01$.*

Table 3
Principal Component Analysis Among Immediacy Characteristics

	Extraction	Component
Relaxed body position	.49	.70
Eye contact	.60	.74
Personal examples	.42	.65
Humor	.75	.87

as research indicates loadings of .60 are reliable regardless of sample size (Guadagnoli and Velicer (1988) as cited in Stevens, 2002). This factor will be referred to as professor "warmth."

Regression

Regression analyses were used to explain how much variance in student participation was accounted for by the immediacy characteristics of asking for opinion and warmth. Specifically, a sequential multiple regression was used to examine the unique contribution of factors predicting various forms of participation (Keith, 2006). Per Stockburger (2001), we first entered variables that the professor had little to no control over

(e.g., class size). In the second step, we entered variables the professor had control over, specifically asking for student opinion. Finally, attitudinal variables (i.e., warmth) were entered in the third step.

Breadth of verbal participation. Class size, asking for student opinion, and warmth were entered into a sequential multiple regression to explain variance in breadth of verbal participation. The overall model was significant ($R^2 = .37$, $F[3, 26] = 5.11$, $p < .001$). First, class size was entered. Class size accounted for 15% of variance in breadth of verbal participation ($\beta = .43$, $p = .03$). Second, the immediacy behavior of asking for student opinion was entered. Asking for student participation accounted for 12% of variance in breadth of verbal participation after controlling for class size ($\beta =$

.36, p = .04). Third, the characteristic of warmth was entered. Warmth accounted for 9% of variance in breadth of verbal participation after controlling for class size and asking for student opinion (β = .31, p = .06). The results indicate that together class size, asking for student opinion, and warmth were successful in explaining *how many students* verbally participated during the course of the lecture. Although warmth failed to meet our α = .05 threshold, it is retained in the model because it adds to the model's explanatory power and is practically significant given the sample (Yaremko, 1986; Beech, 2009).

Frequency of total participation. Class size, asking for student opinion, and warmth were entered into a sequential multiple regression to explain variance in frequency of total participation. The overall model was significant (R^2 = .32, F[3, 26] = 4.01, p = .02). First, class size was entered as a control. Class size accounted for 3% of variance in frequency of participation (β = -.13, p = .35). Second, the immediacy behavior of asking for student opinion was entered. Asking for student participation accounted for 17% of variance in frequency of participation above and beyond class size (β = .43, p = .02). Third, the characteristic of warmth was entered. Warmth accounted for 11% of variance in frequency of participation, controlling for class size and asking for student opinion (β = .34, p = .05). After controlling for class size, asking for student opinion and warmth significantly explained the total amount of participation during the course of the lecture.

Frequency of verbal participation. Class size, asking for student opinion, and warmth were entered into a sequential multiple regression to explain variance in frequency of verbal participation. The overall model was significant (R^2 = .35, F [3, 26] = 4.65, p = .01. First, class size was entered. Class size accounted for 7% of variance in class participation (β = -.23, p = .15). Second, the immediacy behavior of asking for student opinion was entered. Asking for student participation accounted for 12% of variance in frequency of verbal participation after controlling for class size (β = .36, p = .05). Third, the characteristic of warmth was entered. Warmth accounted for 16% of variance in frequency of verbal participation, above and beyond class size and asking for student opinion (β = .40, p = .02). Controlling for class size, asking for student opinion, and warmth were successful in explaining the amount of verbal participation during the course of the lecture.

Frequency of call-outs. Student call-outs (Vc) were the primary form of participation in this study. Class size, asking for student opinion, and warmth into a sequential multiple regression to explain call-outs. The overall model was significant (R^2 = .36, F[3, 26] = 4.83, p = .008). First, class size was entered. Class size accounted for 7% of variance in call-outs (β = -.23, p = .17). Second, asking for student participation was entered.

Asking for student participation accounted for 10% of variance in call-outs after controlling for class size (β = .32, p = .09). Third, the characteristic of warmth was entered. Warmth accounted for 20% of variance in call-outs, above and beyond class size and asking for student opinion (β = .45, p = .01). After controlling for class size, whether the professor asked for student opinion was marginally related to and warmth was significant in explaining how many times students openly called out an answer during the course of the lecture.

Discussion

Positive learning outcomes occur when students are actively involved in the learning experience (Davis, 2009; Mayer, 1998). Immediacy behaviors can be a valuable tool for encouraging classroom participation and thusly, active involvement in the learning process (Menzel & Carrell, 1999; Rocca, 2008). Previous research suggests these behaviors work because they create a congenial environment where students feel comfortable contributing (Mehrabian, 1972/2007). Additionally, our findings suggest that asking for students' input and showing warmth (i.e., relaxed body position, use of personal examples, humor, and eye contact) may be particularly effective for encouraging participation in the college classroom. Because this study investigated the relationship between teacher immediacy and student participation across disciplines, the results are useful to teachers from a variety of academic backgrounds. Incorporating these immediacy behaviors may be a beneficial pedagogical strategy for promoting student success across academic disciplines (Rocca, 2010) and even across cultures (Ozmen, 2011.)

Asking for Student Opinion

Explicitly asking for students' opinion may be a prerequisite to both frequency and breadth of participation. Meaning that, student participation will probably not occur if it is not wanted by the professor (Karp & Yoels, 1976). There may be a few questions or comments from students, but the overall frequency and breadth of participation will be limited simply because the desire for participation was not expressed. Therefore, one of the simplest ways to encourage classroom participation is by making it known that it is wanted and then giving students the opportunity to speak (Karp & Yoels, 1976; Mehrabian, 1972/2007). In this sense, immediacy is easy to incorporate into a teacher's classroom routine and may promote overall participation.

Warmth

As noted, the immediacy behaviors that were related to the professor's use of humor formed a

component referred to as warmth. Using humor in association with having an open body position, maintaining eye contact, and using personal examples proved especially helpful in encouraging classroom participation. Being conscious of one's nonverbal behaviors is important (Davis, 2009). A relaxed body posture can put students at ease and eye contact can be used to engage them and help them regulate their behavior (e.g., encourage them to speak out, expand, wrap up their comment; Mehrabian, 1972/2007). Furthermore, the teacher's use of personal examples promotes reciprocal sharing and thus student participation (Goldstein & Benassi, 1994). Finally, humor itself can be used in any number of ways. Incorporating short videos, cartoon clips, making jokes, and using sarcasm, are a few ways to help keep students engaged. Each professor can hone the use of humor to fit his or her personal style (Frymier & Houser, 2000). In our study, these four behaviors co-occurred, appearing to be part of a positive and open attitude expressed by the professors using them. We labeled this component warmth because these behaviors should be used for encouraging and connecting, not intimidating (Frymier, Wanzer, & Wojtaszczyk, 2008; Rocca, 2010).

Student Call-Outs

It should be noted that the most common form of participation observed was student call-outs (Vc). Call-outs are likely the driving force in both the frequency and breadth of verbal and total participation categories. The use of call-outs may demonstrate a more informal classroom dynamic compared to the use of its counterpart, hand-raising (Vr) and being recognized before responding. Many college classrooms are less formal than high school classrooms and call-outs are often expected and encouraged (Rocca, 2010). If a professor desires this behavior, he or she should explicitly ask for call-outs and should further invite the behavior by exhibiting warmth (Karp & Yoels, 1976; Wilson & Locker, 2007). Combining the more affective warmth with the explicit verbal invitation should help students see that the desire for student participation is genuine. The implementation of such strategies can be utilized when necessary and does not have to require a complete transformation of current teaching practices.

Breadth of Participation

Considering the breadth of student participation may be the most advantageous for promoting classroom participation to the greatest extent. In other words, it is beneficial to get the greatest number of students participating to maximize the benefits associated with active engagement. Both class size and asking for student opinion were significantly related to the number of students who participated verbally. Warmth may also be practically, if not statistically significant, here. In the current study, greater breadth of participation occurred in classes with fewer students, which supports and extends previous studies (Rocca, 2010). Students feel more comfortable in smaller groups and also have more opportunities to speak. One way teachers can promote breadth of participation in larger classes is by dividing students into small groups for discussion purposes (Rocca, 2010).

Objectivity of Observation

This investigation supports and extends previous findings through the use of more objective measures. In comparison to previous studies, utilizing a more objective strategy seems to reveal a more pronounced relationship between teacher immediacy and frequency of student participation ($r = .38$ here versus $r = .17$; Rocca, 2008). This may be due largely in part to the fact that the student is impacted by an array of outside factors, from individual differences to his or her grade in the class (Allen et al., 2008; Weaver & Qi, 2005). It may also be difficult for students to self-report their participation after the participation has occurred as they have to rely on recall after the passage of varying amounts of time and events. Additionally, those who are truly engaged in a class discussion may not think about how frequently they participated which can impact accuracy of their reports later (Rocca, 2008).

Because this study employed a strictly observational methodology, considerations were not made to the personal characteristics of the learner. Certainly, it seems inevitable that these factors influence how the learners respond in the classroom (Allen et al., 2008; Rocca, 2010; Weaver & Qi, 2005). The overall idea of the study is that immediacy characteristics can reach a variety of learners, from those who are inclined to speak up to those who have personal hesitations about participation. Observing classes from various disciplines and levels provided a diverse depiction of the student body and gives our findings wider reaching pedagogical implications.

Limitations

One limitation observed during data collection was the inability to maintain consistency in terms of the professor's use of introduction for the researcher. Most teachers introduced the researcher as "a guest in today's class." It was unrealistic for the observer to go unnoticed because the classes were usually small and in most instances, the observer sat in the front of the class. The degree to which the observer received whole-group individualized attention depended on the preference of the professor. If replication of this study occurs, it may be beneficial to either make no introduction a

prerequisite of participation, or establish a standard introduction that professors can read aloud to the class to maintain consistency.

Another limitation of the study was during the fall semester, the majority of observations were of female professors and during the spring semester, the majority of observations were of male professors. This set-up does help control for gender of the professor across the semester (i.e., beginning, middle, end), but it does present differences between fall and spring semesters. This may be especially relevant in considering the observation of freshman classes. The comfort level of freshmen can vary significantly from first to second semester. It would seem most fitting to strategically vary the observation of male and female professors between and throughout semesters. It may also be helpful to consider class level during this process as well.

Finally, while the simplified coding scheme for teacher immediacy allowed researchers to elaborately code student participation, it prohibited the quantification of teacher immediacy. Teacher immediacy was therefore coded as whether or not a professor exhibited a behavior at least once or not at all. While professors in this study were consistent in their behaviors (immediate or non-immediate), further quantifying teacher immediacy could provide greater insight into its benefits.

Future Directions

In future investigations, it may be beneficial to use a more elaborate technique for classroom observation. As noted, many of the immediacy behaviors can be quantified which could allow for a fuller account of the overall impact on student participation. Using more sophisticated coding should show more variability in behaviors, in which case using gestures (which was excluded from the current analyses) and all other immediacy behaviors could be better analyzed. A video recording would allow for a more elaborate coding scheme for teacher immediacy and eliminate the challenge concerning the inconsistency of introducing the coder. Finally, a recording may also allow for a fuller examination of non-verbal participation which may be more heavily employed by some students.

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