Communication Education
Vol. 55, No. 4, October 2006, pp. 403–414

Routledge
Taylor & Francis Group

The Relationships of Student End-of-Class Motivation with Teacher Communication Behaviors and Instructional Outcomes

James C. McCroskey, Virginia P. Richmond & Vicki E. Bennett

Many studies have demonstrated that student motivation is an important factor in student learning. The recently proposed General Model of Instructional Communication, however, does not include motivation. Based on the assumption that student motivation may be an important factor in student learning, particularly long-term learning and retention, the present research examined relationships of student motivation with the four primary teacher communication behaviors included in that model. Student motivation was also found to be highly associated with instructional outcomes (affect for course content and affect toward teacher) included in the General Model. Results indicate that student motivation should be added to that model. Potential problems associated with colinearity and halo effects are discussed.

Keywords: Student Motivation; Teacher Communication Behaviors; Instructional Outcomes; Colinearity; Halo Effects

Since the beginning of research in the area of instructional communication, scholars have sought to identify the communication behaviors of teachers which can either increase or decrease their effectiveness in attaining learning goals in instruction. Andersen (1978) conducted an extensive review of the educational literature to identify teacher-centered variables which had been found by educational scholars to be associated with effective teaching. Her investigation revealed that there were a

---

James C. McCroskey (D.Ed., Pennsylvania State University, 1966) is a lecturer and Virginia P. Richmond (Ph.D., University of Nebraska, 1977) is Chair of the Department of Communication Studies at the University of Alabama at Birmingham. Vicki E. Bennett (M.A., West Virginia University, 2005), is a doctoral student in Communication at the University of Colorado. James C. McCroskey can be contacted at email@jamescmccroskey.com

ISSN 0363-4523 (print)/ISSN 1479-5795 (online)
DOI: 10.1080/03634520600702562

substantial number of research studies of teacher behaviors which appeared to be associated with "nonverbal immediacy." This construct was advanced by psychologist Albert Mehrabian (1971) and received considerable attention at that time from interpersonal communication scholars. This led Andersen to conduct her dissertation research on the role of teacher nonverbal communication behaviors on instructional outcomes. Since that time, many constructs have been advanced, and studies have been reported, leading instructional communication researchers to focus much of their attention on teacher clarity, teacher nonverbal immediacy, and teacher socio-communicative style.

These constructs all deal with teachers' pro-social behaviors. "Clarity" deals with helping students understand what the teacher is trying to teach. "Nonverbal immediacy" involves positive approach behaviors toward their students. "Responsiveness" indicates the teacher's positive reactions to students' needs and a willingness to listen to their students. "Assertiveness" suggests that the teacher approach students as a leader and maintain appropriate control in the classroom. Since these kinds of teacher behaviors are normally seen as positive, it is reasonable to expect a student to have more positive affect toward their teacher, work harder to learn what the teacher is trying to teach, and appreciate the content they are learning.

Numerous studies have found that students' perceptions of their teachers' communication behaviors of nonverbal immediacy, clarity, and/or socio-communicative style (assertiveness and responsiveness) are highly related with instructional outcomes such as affective learning (affect toward content of class), affect toward the teacher (teacher evaluation), and/or student-perceived cognitive learning. L. McCroskey (2003) examined all of these teacher behaviors and reported them to be significantly correlated with all of these instructional outcomes. This held true for both domestic and foreign instructors. McCroskey, Valencic, and Richmond (2004), in the research leading to the advancement of their General Model of Instructional Communication, reported strong relationships of nonverbal immediacy, assertiveness, and responsiveness with these same three instructional outcomes. Hence, similar results should be replicated in the current research.

H1: Student perceived teacher communication behaviors (immediacy, clarity, assertiveness, responsiveness) are positively associated with course outcomes (teacher evaluation and affect for course content).

In an earlier research report, Richmond (1990) argued that student motivation is a critical factor in instruction, particularly in relation to the development of life-long learning. As she noted in that report, teachers in everyday instruction tend to focus more on short-term learning, but the effectiveness in meeting educational goals is more associated with long-term learning and retention. While the motivation level of the students entering a class is important (Frymier, 1992), it is their motivation at the end of the class which is most likely to influence their behavior subsequent to the classroom experience. Richmond's (1990) research indicated that end-of-term motivation was substantially correlated with teachers' positive use of power, nonverbal immediacy, and affinity-seeking behaviors. These variables collectively accounted for

substantial variance in student end-of-term motivation (23%), cognitive learning (21%), affect for the course content (21%), and affect for the teacher (43%).

The General Model of Instructional Communication (McCroskey et al., 2004) does not include student motivation. However, given the results of the earlier research by Richmond (1990), student motivation appears to be a critical component of effective communication in instruction. This is reinforced by two studies reported by Christophel (1990). Employing very different research designs (one employing a by-student analysis, the other employing a split-class analysis), her results indicated strong associations between nonverbal immediacy and student end-of-class motivation as well as a strong association of motivation with both student perceived cognitive learning and affective learning of the student.

These studies suggest that one pro-social teacher communication behavior, nonverbal immediacy, is substantially associated with end-of-class student motivation. Since nonverbal immediacy has been found to be correlated with other pro-social teacher communication behaviors (L. McCroskey, 2003; McCroskey et al., 2004), it is reasonable to anticipate that other pro-social teacher communication behaviors should also be correlated with motivation. Hence, we proposed a second hypotheses:

> H2: Student perceived teacher communication behaviors (immediacy, clarity, assertiveness, responsiveness) are positively associated with student end-of-term motivation.

As suggested by the above discussion, pro-social teacher communication behaviors are correlated with one another, course outcomes are correlated with one another, and we hypothesize that the communication behaviors are associated with course outcomes. The implication here is that there is substantial colinearity in the predictive models relating pro-social teacher communication behaviors and course outcomes (including motivation). The research to date clearly indicates that no single teacher communication behavior is the key to success in achieving desired instructional outcomes. Collective teacher communication behaviors lead to collective instructional outcomes. This assertion is reinforced by findings that pro-social teacher communication behaviors are not always correlated with one another. Thomas, McCroskey, and Richmond (1994) observed that although assertiveness and responsiveness were not correlated with each other, both were correlated with nonverbal immediacy. Hence, we advanced a research question:

> RQ: To what extent are instructional outcomes scores (collectively, including student motivation) positively associated with teacher communication behaviors scores (individually and collectively)?

Method

Participants

Participants were students in undergraduate upper division communication studies classes at a large Mid-Atlantic university. A total of 189 participants (101 males and 88 females) completed the research instruments. Ages ranged from 18 years to over

50, with most participants ($n = 178$) ranging in age from 18 to 25 years. All participants were sophomores, juniors, or seniors. Participants' major areas of study were categorized as follows: general medical ($n = 24$), general business ($n = 59$), social sciences ($n = 81$), and other ($n = 24$). Over 90 percent of the participants were Caucasian.

Procedure

The data for this study were collected during the last day of class. Participants were asked to reference the teacher and course which they had attended most recently before the class in which they completed the present survey. The participants completed the survey packet before leaving the classroom. Participants were asked to place code numbers on a detachable cover page of the survey packet so they could receive a modest extra-credit offering for the class in which they completed the questionnaire. To guarantee anonymity, participants were asked to return the cover page and the questionnaire to different research assistants. This research was approved by the university's IRB.

Teacher Communication Behavior Measures

Student perceptions of four of their teachers' communication behaviors were measured. These behaviors were nonverbal immediacy, clarity, and two dimensions of socio-communicative style (assertiveness and responsiveness).

Nonverbal immediacy. Nonverbal immediacy was measured using the Nonverbal Immediacy Scale – Observer Report (NIS-O), a 26-item, 5-point Likert-type scale developed by Richmond, McCroskey, and Johnson (2003). For this study, scores ranged from 42 to 129, with a mean of 93.15, a standard deviation of 15.02, and a Cronbach alpha of .92.

Clarity. The Teacher Clarity Scale (TCS; Chesebro, 2003; Chesebro & McCroskey, 1998, 2001, 2003; Sidelinger & McCroskey, 1997) was employed to measure students' socio-communicative style perceptions of teacher clarity. This measure consists of 22 statements with a response range of 1 (*strongly disagree*) to 5 (*strongly agree*). For this study, scores ranged from 42 to 110, with a mean of 83.84, a standard deviation of 14.29, and a Cronbach alpha of .92.

Socio-communication style. Socio-communicative style was measured with the 20-item Assertiveness-Responsiveness scale (Richmond & Martin, 1998; Richmond & McCroskey, 1990; Wanzer & McCroskey, 1998). Participants responded to the listed teacher characteristics on a 5-point scale (1 = *strongly disagree that it applies*, 5 = *strongly agree that it applies*). Assertiveness scores ranged from 12 to 45, with a mean of 32.14, a standard deviation of 6.07, and Cronbach alpha of .83.

Responsiveness scores ranged from 13 to 50, with a mean of 36.06, a standard deviation of 8.20, and a Cronbach alpha of .93.

Instructional Outcome Measures

The instructional outcomes measured in this study were student end-of-class motivation, student affect toward teacher (teacher evaluation), and student affect for course content (affective learning).

Student motivation. The student (end-of-course) motivation measure (Christophel, 1990) consists of 12 bi-polar adjectives. The scales have a 7-point range with bi-polar adjectives at either end of the scale (1 = *motivated*, 7 = *unmotivated*) with five numbered choices between the two opposites. The state motivation scale asks students to report their motivation to study in a specific class. For this study, student motivation scores ranged from 12 to 84, with a mean of 50.65, a standard deviation of 17.20, and a Cronbach alpha of .95.

Student affect for teacher (teacher evaluation). The affect for teacher (Teacher Evaluation) measure consists of eight 7-point, bi-polar scales (McCroskey, 1994). Affect for teacher scores for this study ranged from 8 to 56, with a mean of 42.32, a standard deviation of 12.99, and a Cronbach alpha of .95.

Student affect for course content (affective learning). The affect for course content measure (Affective Learning) consists of eight 7-point, bi-polar scales (McCroskey, 1994). Affect for course content scores for this study ranged from 8 to 56, with a mean of 40.0, a standard deviation of 12.51, and a Cronbach alpha of .92.

Data Analyses

To test our first hypothesis, simple and multiple correlations were computed between the scores on the teacher communication behaviors (immediacy, clarity, assertiveness, and responsiveness) and the two outcome variables (affect toward teacher and affect for course content). This yielded data relevant to the individual relationships of each teacher communication behavior with affect toward teacher and affect for course (see Table 1). To test our second hypothesis, simple correlations between the scores on the teacher communication behaviors and the end-of-term motivation scores were computed. This yielded data relevant to the individual relationships of each teacher communication behavior with student end-of-course motivation (see Table 1).

To answer our research question, we first computed multiple correlations employing all of the teacher communication behaviors and each of the course outcome scores (see Table 1). This yielded data relevant to the collective predictability of the teacher communication behaviors and each outcome variable.

To estimate the relationship between the collective teacher communication behaviors and the collective outcome variables, a canonical correlation analysis was

Table 1 Simple and Multiple Correlations Between Teacher Communication Behaviors and Course Outcome Variables

Variables	Student motivation	Affect for teacher	Affect for course content
Immediacy	.45	.48	.34
Clarity	.60	.69	.59
Assertiveness	.33	.32	.25
Responsiveness	.54	.60	.47
Multiple R	.65	.75	.59

Note. All correlations statistically significant, $p < .001$.

computed between the four teacher communication behaviors and the three outcome variables. A canonical correlation was employed because our interest was directed to the relationship between two groups of variables. Recommended as most appropriate for this type of concern (Hatcher & Stepanski, 1994), this procedure provides an estimate of the correlation (and significance) between the two canonical variate sets created by the two groups of variables, the variance accounted for by that relationship, and the degree to which each individual variable is associated with its canonical variable (see Table 2).

Because of the large sample size, we had high power for the analyses. Since we were not interested in any small relationships, we chose a conservative criterion for statistical significance. The $p < .001$ criterion was chosen to indicate statistical significance for each analysis.

Results

All of the teacher communication behaviors were significantly ($p < .001$) correlated with all of the course outcomes (see Table 1). Follow-up analyses indicated very strong multiple correlations (ranging between .59 and .75) between the four predictor variables and the three outcome variables (see Table 1). These results confirmed our two hypotheses.

Table 2 Correlations of Teacher Communication Measures and Instructional Outcomes Measures with Their Canonical Variables

Teacher communication measures	
Clarity	.92
Immediacy	.64
Assertiveness	.42
Responsiveness	.80
Instructional outcomes measures	
Student motivation	.81
Affect for teacher	.73
Affect for course content	.96

The results of the canonical analysis yielded only one significant canonical correlation, $r_c = .78$, $F(12,439.49) = 16.79$, $p < .001$, Wilk's lambda $= .37$. Based on the observed correlation and the lambda, over 60 percent of the variance was accounted for. As noted in Table 2, clarity and responsiveness were the dominant contributors to the teacher communication behavior canonical, with immediacy and assertiveness somewhat less associated with the canonical. All three of the instructional outcome measures were strong contributors to the canonical. Motivation was found to be a part of the outcome group of variables. It was neither the strongest nor the weakest contributor in this group. These results indicate a very strong association between teacher communication behaviors and instructional outcomes, including motivation.

Discussion

Previous research has determined that a number of student communication traits (clarity, nonverbal immediacy, assertiveness, and responsiveness) are strongly related with instructional outcomes in the classroom. (For summaries of this research and theoretical perspectives, see McCroskey, Richmond, & McCroskey, 2006; Mottet, Richmond, & McCroskey, 2006). These teacher characteristics influence student outcomes of increased/decreased cognitive learning, increased/decreased affective learning, positive/negative perceptions of the teacher, and more/less motivation to study in a given class/subject matter. Much of this research has examined a single teacher communication behavior serving as a predictor of multiple outcomes.

Previous research (L. McCroskey, 2003) has indicated that teacher communication behaviors collectively (clarity, immediacy, assertiveness, and responsiveness) have a strong relationship with instructional outcomes. It was hypothesized that the results in that study would be replicated in the present investigation. That hypothesis was supported with every correlation being substantial and statistically significant ($p < .001$).

Teachers' communication behaviors are powerful predictors of instructional outcomes. When teachers communicate information clearly, engage in nonverbal immediacy behaviors, and respond assertively and responsively, students become more motivated to study. Affect for the teacher may decline subsequent to the completion of a course. However, boosted levels of end-of-class motivation are likely to be sustained as students seek and benefit from future opportunities to learn more about the subject.

The results of this research strongly support adding student end-of-class motivation to the general model of instructional communication as an important outcome variable. The associations between the four teacher communication behaviors and student motivation ranged from .33 to .60. The multiple correlation of these teacher communication behaviors with motivation was high (.65), indicating that these teacher behaviors collectively predict 42 percent of the variance in student motivation. The amount of predictable variance falls in between affect for course content (35 percent) and affect for the teacher (56 percent). In addition, student

motivation was a strong contributor to the outcomes canonical variable, again falling in between the other two outcome variables.

Halo Effects

Such strong relationships *obtained* suggest the possibility that halo effects are involved. This commonly occurs when individual respondents complete multiple measures involving similar (but even very distinct) constructs (Feeley, 2002a, 2002b). Halo effects are likely also to produce higher levels of colinearity among predictor variables, among criterion variables, and between predictor and criterion variables.

There was substantial colinearity observed among the teacher communication behavior correlations and the multiple correlations with motivation and the other two outcome variables. This observation is very important when the researcher wishes to determine the predictive power of individual predictors (such as our four teacher communication behaviors or our three outcome variables). Colinearity can be removed in data analyses by use of multiple regression. However, doing so may greatly underestimate the strength of the individual predictors, and if stepwise regression is used, the importance of a single individual predictor may distort the importance of colinear predictors. Decomposition analysis can also be used to identify the level of variance accounted for both unique and colinear prediction of each predictor.

In the present research, and a number of the previous studies, however, the concern is not with individual predictors. Rather, the focus was on the collective variance accounted for by selected elements of teacher communication behaviors. Hence, the observed colinearity was expected. It was not assumed that teacher communication behaviors were unrelated. Teacher communication is composed of a wide variety of related and unrelated behaviors. The goal of this type of research is to predict greater amounts of instructional outcomes by adding an increasing number of teacher communication behaviors to their model which contribute to instructional outcomes. For example, the power influences and affinity-seeking strategies studied by Richmond (1990) may be added to the four predictors in this study to determine whether doing so increases the predictable variance in instructional outcomes. It is not assumed that there is a single set of behaviors which makes a teacher effective. Rather, it is assumed that various sets of variables produce effective teaching.

Halo effects also occur in single measures, but usually this is not viewed as a problem: It improves the internal reliability of the measure. This probably is the way we should look at groups of teacher communication behaviors and groups of instructional outcomes. The variables within each group can be expected to be correlated with each other; although when we observe other variables that are predictive of instructional outcomes (like teacher misbehaviors), we may find that some are correlated with our known group, some are not correlated, and some are interactive (Thweatt & McCroskey, 1998).

The major problem of concern in instructional communication research (such as the present effort) is when halo effects cut across the predictors and criterion

variables. Some, but not all, instructional communication variables have a strong affective component. Hence, when participants complete scales for both the predictors and the criterion variables at the same sitting, the likelihood of halo effects is believed to be greatly increased.

Much of the research involving teacher behaviors and instructional outcomes (including the present effort) has been open to criticism because researchers have used the design described above; that is, participants complete all of the measures. Frequently, participants are asked to reference a course and teacher which is not the teacher or class in which they are completing the instruments (e.g., class before this one, class after this one). This method is used to generate data on many classes and teachers, not just a single class and teacher. This makes the results of the research more generalizable. It also overcomes the problem of obtaining teacher permission to collect data in their classes, which teachers may be reluctant or unwilling to do.

The alternative approach, research which employs a "by class" design can overcome this halo effect problem. This alternative (which requires teacher cooperation) has different students in the same class respond to different research instruments. The data analyses for this approach are done by class rather than by participant/student. Hence, the unit of analysis is the mean score for the class rather than the score for an individual. Participants are in the same class with the same teacher, but they complete different instruments. No halo effect across instruments for teacher behaviors and instructional outcomes, therefore, can exist. Only two studies (Christophel, 1990; McCroskey et al., 2004) reported in the communication literature have used this approach to study instructional communication.

Christophel (1990) completed the first of these and is most relevant here. She employed the by-student approach ("class before this class") and a matching study using the by-class method. In both studies, students completed the same instruments for measuring nonverbal immediacy, affect for the course, affect for the teacher, and student-perceived cognitive learning. (Cognitive learning was operationalized as learning loss: the amount of learning they achieved minus the learning they thought they would have achieved with an ideal teacher. Higher scores represented greater learning loss.) In her first study (by student), all of the students completed all of the instruments. In the second study (by class), half of the students completed the scale measuring nonverbal immediacy, and the other half completed measures of affect toward content, affect toward teacher, and cognitive learning.

Christophel's obtained correlations between teacher nonverbal immediacy and instructional outcomes differed for the two studies. Specifically, for the by-student method, the obtained correlations were: cognitive learning = $-.50$, course = $.34$, and instructor = $.59$. For the by-class method, the correlations were: cognitive learning = $-.61$, course = $.44$, and teacher = $.67$. The by-student correlations were all substantially lower than the by-class correlations. Absolutely no halo effect (unless it was some type of halo effect unknown to the researchers) was observed in the design subject to increased halo effects compared to the design not subject to halo effects. For comparison, the correlations for immediacy we observed in the present study were: course = $.34$ and teacher = $.48$.

These results and comparisons suggest that the by-student design provides more conservative estimates of variance accounted for than the by-class design which is less prone to halo effects. Therefore, our resulting correlation between teacher communication behaviors and student end-of-class motivation (.65) represents a conservative estimate of the relationship between teacher communication behaviors and student end-of-class motivation. Clearly, motivation should be included among the critical outcome variables in future instructional communication research.

Future research needs to examine other teacher communication behaviors such as those studied by Richmond (1990), power usage and affinity seeking, in conjunction with the four prosocial teacher communication behaviors studied here to determine their relationships with the instructional outcomes. Cognitive learning outcomes and new outcomes such as Titsworth's (2004) students' note taking should also be examined. Researchers need not fear using the by-student research design, employed here and in much of the previous research in this area. Properly employed, such research should not be negatively influenced by halo effects. However, it is important to recognize that this method should be expected to produce conservative estimates of variance accounted for. More accurate (and larger) estimates can be expected when the by-class method is employed. Its use is particularly encouraged when seeking to establish causal relationships within the General Model of Instructional Communication.

Conclusions

The results of this investigation indicate that student end-of-class motivation is not only substantially associated with other instructional outcomes (affect toward course content and affect toward teacher) but also substantially associated with all of the teacher communication variables investigated. Clearly, student motivation should be added to the General Model of Instructional Communication. However, its place in the model cannot be determined by this research. We can theorize with some confidence that the communication behaviors studied here are causal factors in generating student motivation as well as affective outcomes. Theorizing about the relationship between student motivation and other instructional outcomes, however, is more difficult.

Student motivation can be considered as "end" in itself. Teachers may have as their goal to produce motivated students. Alternatively, motivation can be considered a mediating factor between teacher communication behaviors and instructional outcomes. In the present study, we assumed the first perspective and treated student motivation as an instructional outcome. However, it is also reasonable to view student motivation as a step between a set of teacher communication behaviors and what some might consider "more important" outcomes, such as affective and/or cognitive learning, or even teacher evaluation. With this view, we have a different theoretical causal path in mind: teacher communication behaviors to student motivation to leaning outcomes. This view suggests that motivation precedes learning, as opposed to the model we employed in the present research, where

motivation and learning are happening simultaneously. Future research is needed which tests the opposing views prompted by these theoretical positions.

References

Andersen, J. F. (1978). *The relationship between teacher immediacy and teaching effectiveness*. Unpublished doctoral dissertation, West Virginia University, Morgantown.

Chesebro, J. L., & McCroskey, J. C. (1998). The development of the teacher clarity short inventory (TCSI) to measure clear teaching in the classroom. *Communication Research Reports*, *15*, 262–266.

Chesebro, J. L., & McCroskey, J. C. (2001). The relationship of teacher clarity and immediacy with student state receiver apprehension, affect, and cognitive learning. *Communication Education*, *30*, 39–68.

Christophel, D. M. (1990). The relationships among teacher immediacy behaviors, student motivation, and learning. *Communication Education*, *39*, 323–340.

Feeley, T. H. (2002a). Evidence of halo effects in student evaluations of communication in instruction. *Communication Education*, *51*, 225–236.

Feeley, T. H. (2002b). Comment on halo effects in rating and evaluation research. *Human Communication Research*, *28*, 578–586.

Frymier, A. B. (1992). *The impact of teacher immediacy and affinity-seeking on students motivation and learning*. Unpublished doctoral dissertation, West Virginia University, Morgantown.

Hatcher, L., & Stepanski, E. J. (1994). *A step-by-step approach to using the SAS system for univariate and multivariate statistics*. Cary, NC: SAS Institute.

McCroskey, J. C. (1994). Assessment of affect toward communication and affect toward instruction in communication. In S. Morreale & M. Brooks (Eds.), *1994 SCA Summer Conference Proceedings and Prepared Remarks* (pp. 55–69). Annandale, VA: Speech Communication Association.

McCroskey, J. C., Richmond, V. P., & McCroskey, L. L. (2006). *An introduction to communication in the classroom: The role of communication in teaching and training*. Boston: Allyn & Bacon.

McCroskey, J. C., Valencic, K. M., & Richmond, V. P. (2004). Toward a general model of instructional communication. *Communication Quarterly*, *53*, 197–210.

McCroskey, L. L. (2003). Relationships of instructional communication styles of domestic and foreign instructors with instructional outcomes. *Journal of Intercultural Communication Research*, *32*, 75–96.

Mehrabian, A. (1971). *Silent messages*. Belmont, CA: Wadsworth.

Mottet, T. P., Richmond, V. P., & McCroskey, J. C. (2006). *Handbook of instructional communication: Rhetorical and relational perspectives*. Boston: Allyn & Bacon.

Richmond, V. P. (1990). Communication in the classroom: Power and motivation. *Communication Education*, *39*, 181–195.

Richmond, V. P., & Martin, M. M. (1998). Sociocommunicative style and sociocommunicative orientation. In J. C. McCroskey, J. A. Daly, M. M. Martin, & M. J. Beatty (Eds.), *Communication and personality: Trait perspectives* (pp. 133–148). Cresskill, NJ: Hampton Press.

Richmond, V. P., & McCroskey, J. C. (1990). Reliability and separation of factors on the assertiveness-responsiveness measure. *Psychological Reports*, *67*, 449–450.

Richmond, V. P., McCroskey, J. C., & Johnson, A. D. (2003). Development of the nonverbal immediacy scale (NIS): Measures of self- and other-perceived nonverbal immediacy. *Communication Quarterly*, *51*, 504–517.

Sidelinger, R. J., & McCroskey, J. C. (1997). Communication correlates of teacher clarity in the college classroom. *Communication Research Reports*, *14*, 1–10.

Thweatt, K. S., & McCroskey, J. C. (1998). The impact of teacher immediacy and misbehaviors on teacher credibility. *Communication Education*, *47*, 348–358.

Titsworth, B. S. (2004). Students' note taking: The effects of teacher immediacy and clarity. *Communication Education*, *53*, 305–320.

Wanzer, M. B., & McCroskey, J. C. (1998). Teacher socio-communicative style as a correlate of student affect toward teacher and course material. *Communication Education*, *47*, 43–52.

Received November 28, 2005
Accepted February 6, 2006