

# A COMPARISON OF TEACHER AND STUDENT PERCEPTIONS OF IMMEDIACY AND LEARNING: MONITORING PROCESS AND PRODUCT

Joan Gorham and Walter R. Zakahi

*This study investigated the congruence between student and teacher perceptions of teacher immediacy and classroom learning outcomes. There was a high level of agreement in reports of immediacy and learning among students in intact classes. Substantial agreements between student and teacher perceptions of teacher use of immediacy behaviors, and of learning outcomes, were also found. Teacher affect toward teaching was not related to immediacy, and teacher experience was not related to monitoring ability. These results suggest that teachers are able to monitor both the process and product components of the instructional process-product model suggested in previous research on immediacy, thus supporting the practical utility of the model.*

The relationship between teacher immediacy and student learning has been investigated in a series of studies over the past decade. Taken together, this line of research has provided compelling evidence that decreased physical and/or psychological distance between teachers and students is associated with enhanced learning outcomes. The purpose of the present study was to investigate the congruence between teachers' and students' perceptions of immediacy and learning. The questions under investigation were generated with an interest in understanding the degree to which teachers are able to monitor the behaviors and outcomes central to a prescriptive process-product model of instruction.

A positive relationship between teacher immediacy and affective learning has been found in all of the studies which have examined these variables. Andersen (1979) found that nonverbal teacher immediacy accounted for between 14 and 46 percent of the variance in measures of student attitude and behavioral commitment in college classes. Studies by Andersen, Norton, and Nussbaum (1981), Kearney, Plax, and Wendt-Wasco (1985), Plax, Kearney, McCroskey, and Richmond (1986), Gorham (1988), and Kelley (1988) supported this relationship, as did McDowell, McDowell, and Hyerdahl's (1980) study of nonverbal immediacy in junior and senior high school classrooms, Gorham's (1988) study of teacher verbal immediacy in college classes, and Kelley's (1988) study of verbal and nonverbal immediacy at the junior and senior high school levels. In his development of the immediacy construct, Mehrabian demonstrated that the major communicative function of immediacy behaviors is that they reflect a more positive attitude of the sender to the receiver (Andersen, 1979). Immediacy and liking are "two sides of the same coin. That is,

*Joan Gorham (Ed. D., Northern Illinois University, 1983) and Walter R. Zakahi (Ph.D., Bowling Green State University, 1982) are Associate Professors in the Department of Communication Studies at West Virginia University, Morgantown, WV 26506. The authors acknowledge, with appreciation, the contribution of Jenny Lake McKeller for her assistance in collecting data.*

liking encourages greater immediacy and immediacy produces more liking” (Mehrabian, 1971, p. 77). The relationship of immediacy to affective outcomes in the instructional context is thus intuitively in line with Mehrabian’s conceptualization of immediacy. It has also received consistent empirical verification.

The relationship between teacher immediacy and cognitive learning has been more difficult to explain. Where cognitive learning has been operationalized as a test grade (Andersen, 1979) or course grade (McDowell, McDowell & Hyerdahl, 1980; Giglio & Lustig, 1987) a relationship between immediacy and cognitive learning has not been supported; however, when student perceptions of their own learning (Richmond, Gorham & McCroskey, 1987; Gorham, 1988; Kelley, 1988) or short term recall (Kelley & Gorham, 1988) have been used to measure cognitive learning substantial associations have emerged. It appears that the relationship is non-linear, with low immediacy suppressing cognitive learning and a threshold effect moderating the proportional gain in cognitive learning between moderate and high immediacy conditions (Richmond, et al., 1987; Jordan, 1989). This explanation may, in part, explain the differences in findings between studies using consenting teachers (the majority of whom appear to be at least moderately immediate) and those using experimentally enhanced high-low immediacy distinctions.

In addition, recent research has indicated that, in contrast to the direct, linear relationship between immediacy and affective learning, its relationship to cognitive learning is mediated through other factors. Kelley and Gorham (1988) developed a theoretical rationale linking immediacy to cognitive learning through its arousal and attention effects. Giglio and Lustig (1987) found immediacy related to higher student expectancies, which in turn related to higher grades. Christophel (1990) provided evidence that teacher immediacy affects student motivation, which consequently influences their learning. In addition, Christophel’s use of a split-class design, in which half the students in intact classes completed immediacy and motivation scales and half completed learning and motivation scales, indicated that the impact of immediacy was not an artifact of contamination in previous studies which have asked the same students to complete both immediacy and learning measures. These recent studies have strongly suggested that teacher immediacy is related to cognitive learning outcomes. While this relationship may not be as simple as that of immediacy to affective learning, in practical terms the implications are the same: more immediate teachers are likely to effect more learning.

In order to determine comparability to the immediacy-learning relationships found in previous research, the present study included an analysis of the same variables:

H<sub>1</sub>: Student perceptions of teacher immediacy behaviors are positively associated with student learning.

In their critique of research on teacher performance criteria, Rosenshine and Furst (1973, p. 40) concluded that “educational researchers have *not* provided those who train teachers with a repertoire of teaching skills which indicate to a teacher that if he [sic] increases behavior X and/or decreases behavior Y there will be a concomitant change in the cognitive or affective achievement of his [sic] students.” If increases in cognitive and affective learning are the product of an instructional process-product model, the previous studies have also suggested a set of low-inference variables (Gage, 1969; Rosenshine, 1970; Rosenshine & Furst, 1973) which define the process component of the model. The most recent studies have assessed teacher immediacy

through reports of specific nonverbal (e.g., vocal expressiveness, smiling, relaxed body posture, gesturing, movement about the classroom, and eye contact) and verbal behaviors (e.g., humor, praise, self-disclosure, initiation, and inclusiveness).

The identification of these behaviors enhances the prescriptive value of the research, assuming that prospective and practicing teachers can be taught to use and to monitor their use of specific behaviors which affect perceptions of immediacy. As Medley (1973, p. 45) has pointed out, "The most vital link in the process of improving teacher effectiveness is not the research worker, or the teacher educator, but the teacher him/herself, systematically implementing research findings in his/her own behavior and assessing the effects it has on his/her pupils."

The literature on teacher training suggests that teachers are able to adapt their behaviors following training in areas such as questioning techniques (Leonard & Gies, 1972), techniques which enhance student self concept (Del Polito, 1980), verbal communication strategies for improving interpersonal relationships (Armes, 1980; Armes & Archer, 1980), and verbal and nonverbal expressiveness and perceptiveness (Grant & Hennings, 1971; Justen, 1984; Klinzing, 1983, 1984; Nussbaum, 1984). In theatrical terms, these behavior modification programs would follow the philosophy of Guthrie's "technique" acting, which emphasizes a methodical, analytical approach of observation, conscious adaptation of behavior, and feedback on effectiveness.

The literature on teacher training also suggests an element of the philosophy of "Method" acting, in which Stanislavski and Strasberg hold that actors who do not *feel* an emotion will not be able to convincingly portray it without counter-communicative nonverbal leakage. For example, Kuzdzal (1982) examined teacher interactions in vocational typing classes, finding that teachers displayed markedly more positive nonverbal behaviors toward higher-achieving and nonhandicapped students than toward lower-achieving and handicapped students. Dobson and Elson (1973) found a significant relationship between teachers' philosophies of human nature and their nonverbal behavior in the classroom. Stiles (1979) found professor-student discussions clearly governed by the professor's presumption of status, and Katz (1981) reported that teachers' personal and professional values and expectations had a greater effect on commitment to change than training or retraining experiences. Goffman (1959, 1974) has suggested that interpersonal interactions are governed by roles developed over long periods of time and that they are unlikely to change easily, if at all. Moriarty (1981) found that the environment in which a teacher is raised is more important to their teaching behaviors than any special preparation.

It is possible that a teacher's use of immediacy behaviors in the classroom could be affected by training, attitude, or some combination of the two. Previous research has established distinct variations among teachers in their levels of immediacy. While this information may help in the evaluation or explanation of teaching effectiveness, the question of changing behavior in teachers who are not immediate has not yet been addressed. A primary prerequisite for change is the recognition of need. We cannot assume, without evidence to support the assumption, that teachers are aware of the degree to which they are perceived as immediate. We also cannot assume that teachers have an accurate perception of affective learning outcomes, or that their perceptions of cognitive learning agree with their students' perceptions. A study of teachers' reported and observed behaviors in adult education and traditional classes

(Gorham, 1985) indicated that teachers were not always aware of their behaviors. The more teachers believed their adult and pre-adult students differed as learners, the greater their reported differences in teaching behavior; however, observational data did not support these reported differences.

If student perceived teacher immediacy is related to learning, it is important to know whether teachers can accurately assess the level of immediacy they project in the classroom (Rogers & McCroskey, 1984). In terms of motivation to modify behavior, it is also important to ascertain whether teachers' perceptions of learning outcomes are valid. The purpose of the present study was to investigate the degree of congruence between teacher and student perceptions of immediacy and learning, the former providing insight into teachers' ability to monitor process and the latter their ability to monitor product in this process-product model for instructional interaction.

RQ<sub>1</sub>: Is there a relationship between student reports of a teacher's immediacy behaviors and that teacher's perceptions of her/his own behaviors?

RQ<sub>2</sub>: Is there a relationship between student and teacher perceptions of cognitive and affective learning outcomes?

Two exploratory research questions were also addressed. In light of the "leakage" question posed by findings suggesting that teachers' attitudes are instrumental in influencing their behaviors, the third research question investigated the relationship between immediacy and the teacher's attitude toward teaching:

RQ<sub>3</sub>: Is there a relationship between teacher immediacy and the degree to which a teacher enjoys teaching?

The fourth research question was concerned with the development of teachers' ability to monitor perceptions of immediacy and learning:

RQ<sub>4</sub>: Is there a relationship between teaching experience and the ability to accurately monitor immediacy and learning?

## PROCEDURE

### SUBJECTS AND DATA COLLECTION

Subjects were 526 students in 35 intact classes, and the teachers of those classes, who voluntarily completed the questionnaire. Class sizes ranged from 6 to 41 students. The average class size was 21, including students who were absent and those who did not complete the entire questionnaire, and 15 when those students were excluded. Two-hundred and twenty-seven students were male and 294 were female (five subjects did not indicate their gender). Twenty-one teachers were male and 14 were female. Thirteen had taught from 1 to 5 years, two from 6 to 10 years, and nineteen for 11 or more years. One teacher failed to complete the verbal immediacy measure, three teachers failed to complete the attitude dimension of the affective learning measure and four teachers failed to complete the behavioral dimension of the affective learning measure.

The classes used were randomly drawn from Education, Business, and Liberal Arts course listings for the semester in which data were collected. Liberal Arts courses were divided into humanities, social science, and math/science areas. For practical reasons, large lecture classes were deleted from the potential sample. The remainder of the classes were listed in random order (by drawing) by subject area, with every fifth course on a respective list, to a total of seven per subject area, selected

for participation. If permission was not granted for data collection in a selected class, the class listed immediately after that class was used. This alternative selection was necessary in four cases. The sample therefore consisted of seven classes from each of the five areas (math/science, social science, humanities, business, and education).

The questionnaires were completed between the 9th and 12th weeks of a 16 week semester, after students had considerable exposure to the instructor but before final grades were assigned. Students were assured that their participation was voluntary, that they would remain anonymous, and that their participation would not affect their grades. Instructors were also assured that their responses would remain anonymous.

## MEASUREMENT

Teachers' use of 17 verbal immediacy (Gorham, 1988) and 13 nonverbal immediacy (Richmond, Gorham, & McCroskey, 1987) behaviors identified in previous research were reported on five-point scales (0 = Never; 4 = Very Often).<sup>1</sup> The items to which students responded are presented in Table 1. The teacher questionnaire was

TABLE 1  
IMMEDIACY BEHAVIOR ITEMS

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### 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 a part of his/her lecture plan.
4. Uses humor in class.
5. Addresses students by name.
6. Addresses me by name.
7. Gets into conversations with individual students before or after class.
8. Has initiated conversations with me before, after, or outside of class.
9. Refers to class as "our" class or what "we" are doing.
10. Provides feedback on my individual work through comments on papers, oral discussions, etc.
11. Calls on students to answer questions even if they have not indicated that they want to talk.\*
12. Asks how students feel about an assignment, due date, or discussion topic.
13. Invites students to telephone or meet with him/her outside of class if they have questions or want to discuss something.
14. Asks questions that solicit viewpoints or opinions.
15. Praises students' work, actions, or comments.
16. Will have discussions about things unrelated to class with individual students or with the class as a whole.
17. Is addressed by his/her first name by the students.

### Nonverbal items:

18. Sits behind desk while teaching.\*
  19. Gestures while talking to class.
  20. Uses monotone/dull voice while talking to class.\*
  21. Looks at the class while talking.
  22. Smiles at the class as a whole, not just individual students.
  23. Has a very tense body position while talking to the class.\*
  24. Touches students in the class.
  25. Moves around the classroom while teaching.
  26. Looks at board or notes while talking to the class.\*
  27. Stands behind podium or desk while teaching.\*
  28. Has a very relaxed body position while talking to the class.
  29. Smiles at individual students in the class.
  30. Uses a variety of vocal expressions while talking to the class.
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\*presumed to be nonimmediate

adapted by leading each statement with “I” and changing the verb to the first person. Items 6 and 8 were adapted to read “I have addressed all or most of my students by name” and “I have initiated conversations with all or most of my students before, after, or outside of class.” Verbal and nonverbal immediacy scores were calculated by adding the responses to the items in each set. Alpha reliabilities for the verbal immediacy measures were .89 for teachers and .92 for students. Reliabilities for the nonverbal immediacy measures were .73 for teachers and .89 for students.

Cognitive learning was assessed via student perceptions of their own learning, a procedure which has been justified in previous research (Richmond, McCroskey, Kearney & Plax, 1987; Richmond, Gorham & McCroskey, 1987; Gorham, 1988). Using two 10-point scales (“0 means you learned nothing and 9 means you learned more than in any other class you’ve had”), students were asked to rate how much they had learned in the class and how much they thought they could have learned had they had “the ideal instructor.” (Teachers were asked to rate how much they believed their students learned in the class, and how much they thought their students could have learned had they had “the ideal instructor.”) A “learning loss” score was computed by subtracting the response to the first scale from the response to the second scale.

Affective learning was assessed via the the measures of affect designed by Scott and Wheelless (1975) and expanded by McCroskey, Richmond, Plax, and Kearney (1985). Students’ attitudes toward the course content, instructor, and behaviors recommended in the course were measured by four, seven-step bi-polar scales: good/bad, worthless/valuable, fair/unfair, and positive/negative. Behavioral intent, in terms of likelihood of engaging in behaviors recommended, of enrolling in another course of related content if time and schedule permitted, and of enrolling in another course with the same teacher if time and schedule permitted (graduating seniors were asked to assume they would still be in school), was similarly measured by four, seven-step bi-polar scales: likely/unlikely, impossible/possible, probable/improbable, and would/would not. An overall affect score was generated by adding the scores for all six measures. Teachers were asked to complete the scales in terms of how they thought their students felt. Alpha reliabilities for the attitude dimension of the affective learning scale were .96 for teachers and .95 for students. Reliabilities for the behavioral intent dimension of the scale were .91 for teachers and .94 for students.

A report of teacher or student gender was requested on the respective questionnaires. The teacher form also included the following questions: “On a scale of 0–9, indicate how much you like teaching, with 0 meaning not at all and 9 meaning you would rather teach than do anything else” and “How long have you been teaching?” The teaching experience question offered three responses: 1–5 years, 6–10 years, and 11 or more years.

## DATA ANALYSES

The means for student responses across each intact class were calculated to be used as collective student measures in subsequent data analyses. Campbell and Stanley (1963) have stated that the proper unit of analysis for generalizing to the training of teachers is the mean score of each classroom. The standard deviations within groups of intact-class student data were low, indicating a high level of agreement among students on both reports of teacher use of immediacy behaviors and learning outcomes.

The hypothesis was tested using one-tailed tests of Pearson correlations. Correlations were run between the measures of cognitive and affective learning and the verbal and nonverbal immediacy scores. Pearson correlations were also run between the learning measures and the individual immediacy behaviors so that the relationship of specific behaviors to the learning measures could be examined. This strategy has been successfully employed in previous research using the immediacy measures (e.g., Richmond, Gorham & McCroskey, 1987; Gorham, 1988), and was followed in each of the analyses which included the immediacy measures.

The first research question was tested using two-tailed tests of Pearson correlations. Correlations were run between the teacher self-report and the student report of teacher immediacy behavior. The second research question was tested in a similar manner. Pearson correlations were calculated between student and teacher perceptions of cognitive and affective learning. The third research question was tested using Pearson correlations of scores on the enjoyment of teaching item with scores on the student-reported immediacy measures.

Difference scores between teacher and student perceptions of teacher immediacy and of learning were generated for use in analyzing the last research question. The immediacy difference scores were produced by subtracting the student perception from the teacher perception by immediacy dimension, as well as by item so that the individual behaviors could be tested. The cognitive learning difference scores were produced individually for the perceived learning item and the learning loss measure. The difference scores for affective learning were generated for the two dimensions (behavioral and attitude) as well as the affective learning composite. This research question was to have been tested using a one way analysis of variance with teaching experience as the independent variable. However, only two teachers in the sample checked the 6–10 years of experience category on the questionnaire. This category and those two subjects were dropped from the analysis and the question tested using a two-tailed t-test with the two remaining categories of experience (1–5 years and 11 or more years) serving as the independent variable and the difference scores for immediacy and learning serving as the dependent variables.

## RESULTS

Hypothesis One predicted that there would be a positive relationship between student perceptions of teacher immediacy and learning. The hypothesis was supported. Correlations between the two dimensions of immediacy and the dimensions of affective and cognitive learning were all significant at the .01 level, ranging from .53 ( $p < .01$ ) between nonverbal immediacy and both the attitude and behavioral intent measures to  $-.60$  ( $p < .01$ ) for verbal immediacy and learning loss. These results are reported in Table 2. The overall correlations were higher than those reported by Gorham (1988), which would be expected because data were analyzed by classes rather than by individual students (Giglio & Lustig, 1987).

In terms of comparing these results to those of previous studies, it should be noted that 86% of the classes in the present study were small classes (1–25 students) and that the effects of immediacy on learning have been shown to increase as class size increases, particularly when comparing small to mid-sized classes (Gorham, 1988). Gorham's small class correlations of verbal immediacy with learning, learning loss, and total affect were .33,  $-.45$ , and .48 respectively, compared to .59,  $-.60$ , and .56 in the present study. Gorham's small class correlations of nonverbal immediacy with

TABLE 2

SIMPLE CORRELATIONS FOR VERBAL AND NONVERBAL IMMEDIACY AND THE LEARNING MEASURES

	Learning	Learning Loss	Attitude	Behavioral Intent	Total Affect
Verbal Total	.59**	-.60**	.56**	.55**	.56**
Verbal Items					
1.	.19	-.12	.32*	.26	.29*
2.	.33	-.42**	.41**	.40**	.41**
3.	.16	-.30	.23	.14	.18
4.	.31	-.45**	.21	.18	.20
5.	.42**	-.37*	.37**	.37**	.38**
6.	.45*	-.37*	.35*	.41*	.39**
7.	.27	-.60**	.31*	.21	.26
8.	.53**	-.57**	.41**	.46**	.45**
9.	.57**	-.35**	.58**	.64**	.63**
10.	.74**	-.65**	.62**	.66**	.65**
11.	.26	-.17	.22	.31*	.27
12.	.39*	-.52**	.39**	.37**	.29**
13.	.31	-.32	.25	.21	.24
14.	.01	-.23	.17	.03	.10
15.	.76**	-.64**	.72**	.78**	.77**
16.	.28	-.39**	.23	.24	.24
17.	.56**	-.41*	.41**	.52**	.48**
Nonverb Total	.56**	-.56**	.53**	.53**	.54**
Nonverb Items					
18.	.10	.03	.01	.06	.04
19.	.57**	-.51**	.48**	.45**	.47**
20.	-.62	.67**	-.63**	-.63**	-.64**
21.	.30	-.31	.36*	.28*	.33*
22.	.32	-.47**	.33*	.34*	.34*
23.	-.44**	.47**	-.47**	-.48**	-.49**
24.	.32	-.17	.16	.31*	.24
25.	.28	-.37*	.17	.16	.17
26.	.03	-.08	-.08	-.05	-.06
27.	-.28	.21	-.28*	-.34*	-.32*
28.	.57**	-.45**	.56**	.54**	.56**
29.	.44**	-.43*	.32*	.33*	.34*
30.	.72**	-.68*	.62**	.65**	.65**

\* &lt;.05

\*\* &lt;.01

learning, learning loss, and total affect were .33,  $-.47$ , and .53, compared to .56,  $-.56$ , and .54 in the present study. Addressing students by name, initiating a conversation with the individual student, inclusive references, providing feedback, asking students how they feel about assignments, using praise, using gestures, using vocal variety, smiling at individual students, and a relaxed body position were significantly related to perceptions of both cognitive and affective learning in both studies. Using personal examples, encouraging students to talk, addressing the individual student by name, conversing with students before or after class, being addressed by first name by students, looking at the class, smiling at the class, and not standing behind a podium/desk were significantly related to total affect in both studies.

The first research question was concerned with the relationship between student reports of a teacher's immediacy behaviors and that teacher's perceptions of his/her own behaviors. As summarized in Table 3, the results indicated that teachers do have

an accurate impression of how they present themselves to their students. The correlation between teachers' self-reports and students' reports of teacher verbal immediacy was .81 ( $p < .01$ ). The correlation between teachers' self-reports and students' reports of nonverbal immediacy was .70 ( $p < .01$ ). An examination of the correlations for individual behaviors indicated that only the touch item did not have a significant correlation.

The second research question was concerned with the relationship between student and teacher perceptions of cognitive and affective learning. The results showed that student and teacher perceptions of learning were significantly correlated. The correlations were .49 ( $p < .01$ ) for the attitude dimension, .45 ( $p < .01$ ) for the behavioral intent dimension, and .48 ( $p < .01$ ) for total affect. In terms of cognitive learning, the correlation between student and teacher ratings on the question asking how much had been learned in the class was .62 ( $p < .01$ ); however,

TABLE 3  
SIMPLE STATISTICS AND CORRELATIONS BETWEEN TEACHER AND STUDENT PERCEPTIONS  
OF TEACHER IMMEDIACY BEHAVIORS

	Correlation	Student Mean	Student S.D.	Teacher Mean	Teacher S.D.
Verbal Total	.81**	37.63	8.68	42.74	10.35
Verbal Items					
1.	.48**	2.65	.86	2.73	1.02
2.	.57**	2.61	.76	2.68	.98
3.	.62**	2.16	.63	2.18	.76
4.	.58**	2.31	.74	2.35	.77
5.	.70**	2.44	1.07	2.62	1.26
6.	.68**	1.99	1.11	1.94	1.58
7.	.71**	2.34	.64	2.88	.81
8.	.46**	1.42	.70	2.12	1.25
9.	.58**	2.45	.64	2.94	.97
10.	.53**	2.14	.94	2.63	1.05
11.	.69**	1.69	.95	1.70	1.27
12.	.48**	1.54	.76	1.76	.99
13.	.50**	2.19	.72	2.82	.90
14.	.64**	1.93	.78	2.06	1.15
15.	.72**	2.37	.86	2.88	.93
16.	.47**	1.63	.57	1.85	.89
17.	.81**	1.14	1.33	1.56	1.56
Nonverb Total	.70**	43.96	5.07	45.56	5.44
Nonverbal Items					
18.	.62**	.82	.70	.76	1.18
19.	.53**	2.71	.55	3.06	.74
20.	.36*	1.10	.66	1.21	1.04
21.	.36*	3.32	.46	3.70	.47
22.	.76**	2.77	.71	3.09	.80
23.	.29	.84	.42	.79	.64
24.	.77**	.59	.56	.50	.75
25.	.57**	2.49	.68	2.53	1.33
26.	.40**	1.66	.71	1.74	.86
27.	.78**	1.48	.85	1.76	1.28
28.	.43**	3.13	.52	3.29	.68
29.	.60**	2.18	.62	2.35	1.04
30.	.54**	2.66	.64	3.09	.83

\*  $< .05$

\*\*  $< .001$

there was not a significant correlation between learning loss scores ( $r = .07$ ,  $p = \text{n.s.}$ ).

The third research question investigated the relationship between teachers' enjoyment of teaching and their use of immediacy behaviors. The analysis did not yield significant correlations. On the 0–9 scale, with 9 indicating the teacher "would rather teach than do anything else," the range of responses was 1 to 9 and the mean 7.18. The correlation between liking teaching and student perceptions of verbal and nonverbal immediacy were .14 and  $-.04$  respectively ( $p = \text{n.s.}$ ). Only one of the individual immediacy behaviors (Praises students' work, actions, or comments) was significantly correlated with how much teachers like teaching.

Results for the final research question failed to demonstrate differences between the levels of teacher experience and the difference scores for perceptions of verbal and nonverbal immediacy. Teachers' monitoring of three of the individual behaviors (Asks questions that solicit viewpoints or opinions, Will have discussions about things unrelated to class with individual students or with the class as a whole, and Sits behind desk while teaching) was significantly differentiated by teaching experience ( $p < .05$ ); however, there appeared to be no meaningful pattern to these differences. There were also no differences produced by the level of teaching experience when examined in relation to affective learning ( $t = .62$  [ $df = 25$ ]  $p = \text{n.s.}$ ) or its two dimensions, attitude ( $t = .77$  [ $df = 27$ ]  $p = \text{n.s.}$ ) and behavioral intent ( $t = .66$  [ $df = 26$ ]  $p = \text{n.s.}$ ). Similar results were produced for the cognitive learning item ( $t = .43$  [ $df = 29$ ]  $p = \text{n.s.}$ ) and the measure of learning loss ( $t = .99$  [ $df = 29$ ]  $p = \text{n.s.}$ ).

Individual  $t$ -tests were also run post-hoc to see if there was a difference between more experienced and less experienced teachers in their use of immediacy behaviors as reported by students. The two categories of teacher experience discussed earlier served as the independent variable and the dimensions of immediacy as the dependent variables. Results for these analyses indicated that teachers with 1–5 years of experience were perceived as more verbally immediate than were those with 11 or more years of experience ( $t = 2.82$  [ $df = 32$ ]  $p < .01$ ). There were no significant differences between the two groups in terms of perceptions of nonverbal immediacy ( $t = 1.55$  [ $df = 30$ ]  $p = \text{n.s.}$ ).

TABLE 4  
SIMPLE STATISTICS AND CORRELATIONS BETWEEN TEACHER AND STUDENT PERCEPTIONS  
OF STUDENT LEARNING

	Correlation	Student Mean	Student S.D.	Teacher Mean	Teacher S.D.
Cognitive Learning					
Learning	.62**	6.12	1.47	6.79	1.31
Learn Loss	.07	1.58	.98	1.15	.80
Affective Learning					
Attitude	.49**	66.77	8.30	66.61	14.79
Behavior	.45**	65.40	9.68	66.43	12.26
Affect Total	.48**	131.20	17.61	134.90	25.46

\*  $< .05$

\*\*  $< .01$

TABLE 5  
T-TEST SUMMARY TABLE  
TEACHING EXPERIENCE AND IMMEDIACY

	1-5 Years		11 or More Years		t	p
	Mean	S.D.	Mean	S.D.		
Verbal Total	42.61	8.80	34.41	7.55	2.74	<.01
Verbal Immediacy Items						
1.	2.77	.85	2.55	.92	0.61	n.s.
2.	2.80	.80	2.50	.76	1.08	n.s.
3.	2.36	.66	2.03	.60	1.45	n.s.
4.	2.69	.71	2.08	.71	2.39	<.05
5.	2.88	1.02	2.10	1.06	2.10	<.05
6.	2.48	1.15	1.64	1.04	2.16	<.05
7.	2.59	.56	2.18	.68	1.85	n.s.
8.	1.79	.73	1.20	.60	2.43	<.05
9.	2.72	.64	2.27	.14	1.97	n.s.
10.	2.55	.93	1.91	.87	1.98	n.s.
11.	1.80	.98	1.63	1.00	0.50	n.s.
12.	1.90	.66	1.32	.79	2.18	<.05
13.	2.35	.76	2.09	.73	.99	n.s.
14.	1.95	.82	1.87	.79	.25	n.s.
15.	2.71	.96	2.16	.77	1.80	n.s.
16.	1.83	.66	1.52	.50	1.52	n.s.
17.	2.05	1.62	.61	.72	3.42	<.01
Nonverbal Total	45.62	4.04	42.76	5.72	1.66	n.s.
Nonverbal Immediacy Items						
18.	.92	.78	.81	.67	0.40	n.s.
19.	2.89	.43	2.58	.62	1.57	n.s.
20.	.86	.49	1.23	.75	1.71	n.s.
21.	3.34	.41	3.28	.51	0.40	n.s.
22.	3.00	.65	2.62	.72	1.56	n.s.
23.	.86	.42	.84	.43	0.12	n.s.
24.	.80	.60	.48	.52	1.65	n.s.
25.	2.72	.70	2.31	.66	1.64	n.s.
26.	1.77	.82	1.62	.66	0.56	n.s.
27.	1.31	.84	1.59	.91	0.87	n.s.
28.	3.20	.35	3.08	.61	0.67	n.s.
29.	2.44	.68	2.00	.57	1.99	n.s.
30.	2.94	.47	2.51	.72	1.90	n.s.

One teacher failed to respond to any of the immediacy items while two more responded only selectively to the immediacy items. Those items which the two teachers answered were included in the item analyses. Their scores were not, however, included in either the verbal or nonverbal total.

## DISCUSSION

This study was designed to investigate the degree to which teachers are able to monitor the behaviors and outcomes central to a prescriptive process-product model of instruction. The relationship of a teachers' use of immediacy behaviors to student learning, which has been demonstrated in previous research, was again supported. The majority of the classes represented in this study were small classes, in which it was likely that the physical closeness of teachers to students and the relative ease of initiation and inclusiveness diminished differences in the use of such behaviors among teachers; however, teacher immediacy was still significantly related to learning outcomes. The correlations reported here are probably modest in terms of immediacy-learning relationships which would be found in larger classes (Gorham, 1988).

The data also indicated a high level of agreement among students' reports of teacher immediacy and learning outcomes in intact classes. Andersen (1979) reported substantial agreement between students' reports of teacher immediacy and reports of trained observers. The present findings further support the validity of student reports of immediacy; they also suggest that perceptions of learning are consistent across classes. Along with the immediacy-learning relationship reported using Christophel's (1990) split-class design, they lend credibility to previous studies which assumed that individual student reports of both immediacy and learning were accurate reflections of teacher behavior and learning outcomes.

The results of the present study suggest that teachers are highly aware of their use of immediacy behaviors, and that their perceptions of learning agree with their students' perceptions. Teachers are, in fact, able to effectively monitor both the behaviors and outcomes central to the process-product model suggested in the immediacy literature. These findings have important implications in assessing the prescriptive usefulness of previous research on immediacy. If teachers were unable to monitor these behaviors and outcomes, it is dubious whether they would have the information necessary for "systematically implementing research findings . . . and assessing the effects it has on [their] pupils" (Medley, 1973, p. 45). We would be left with a descriptive model, useful perhaps in evaluating teacher effectiveness, but of limited use in improving teacher effectiveness. Our next step would then entail the development and testing of teacher training techniques to enhance monitoring ability, probably with provisions for feedback from outside observers and/or analysis of videotaped samples of teaching. It appears, however, that such intervention is not necessary. If teachers can be convinced that learning outcomes are important, a belief we would like to assume is already held by most teachers, and that the use of specific immediacy behaviors is related to those outcomes, then they should be able to modify their behaviors accordingly and assess the effects of doing so. In other words, if the findings that have emerged from the body of research dealing with classroom immediacy are communicated to teachers, they should be in a position to judge the need for change and act upon that recognition.

The results for the third and fourth (exploratory) research questions suggest that affect toward teaching does not assure teacher immediacy, and that monitoring ability does not appear to be influenced by teaching experience. Thus, the practical implications for teacher training and development suggested above should be applicable to teachers at various stages of their careers. It should be noted that the teachers participating in this study generally reported high liking of teaching (mean of 7.18 on a 1-9 scale); however, they differed in terms of their use of immediacy behaviors. It is possible that "liking teaching" was interpreted differently by different instructors and that a more discriminating measure might find differences, for example, between teachers who like teaching because of their relationships with students and those who like the job for other reasons (perhaps in spite of their relationships with students). Our data do not allow us to conclude that a pointed dislike of teaching would not have a negative effect on immediacy. They do suggest that liking teaching does not necessarily, in itself, result in high immediacy.

An interesting comparison can be made between these findings and those of a similar study comparing teacher and student assessments of teacher immediacy. Rodgers and McCroskey (1984) compared responses to Andersen's (1979) Generalized Immediacy (GI) and Behavioral Indicators of Immediacy (BII) Scales. The GI

consists of two sets of eight-step bi-polar scales. The first set contains five items (agree/disagree, false/true, incorrect/correct, wrong/right, and yes/no) which follow a description of immediacy and the statement "In your opinion, the teaching style of your instructor is very immediate." The second set asks students to describe the teaching style of their instructor as immediate/not immediate, cold/warm, unfriendly/friendly, and close/distant. The teacher-student correlation for the GI was .28, with less than 8 percent of the variance shared. The BII consists of 15 descriptions of teacher behavior rated in comparison to other instructors (e.g., The instructor smiles more during class than most other instructors) on a one to seven scale, with one indicating "strongly disagree" and seven indicating "strongly agree." The teacher-student correlation on the BII was .51, indicating 26 percent covariance. The present study yielded correlations of .81 ( $r^2 = .66$ ) and .70 ( $r^2 = .49$ ) between teacher and student reports on the verbal and nonverbal immediacy measures.

It appears that the validity of teacher self-reports of immediacy is enhanced when specific, low-inference behaviors are referenced and when the assessment of behavior is requested in absolute rather than comparative terms. In the present study, teachers and students had a high level of agreement ( $r = .62$ ) in their responses to the question asking how much students had learned in the course; however, the correlation between learning loss scores was not significant ( $r = .07$ ). Teachers and students agreed on the amount of learning in absolute terms but differed in comparing that learning to an ideal. That difference, of course, was a function of differential perceptions of probable level of learning with an ideal teacher. The weak correlations between student and teacher responses to the BII might be attributable to similar lack of agreement, not on use of the behaviors in question, but on how they compare to what other people do.

If we consider the results of this study in conjunction with recent research linking teacher immediacy to increased motivation (Christophel, 1990) and enhanced student expectancies (Giglio & Lustig, 1987), we have compelling evidence that an understanding of teacher immediacy may be of serious importance in educational practice. Both motivation and expectancies have been convincingly linked to learning outcomes. Immediacy has been shown to influence motivation and expectancies, as well as having some direct effect on learning outcomes. Teachers appear to be able to accurately monitor their use of immediacy behaviors. Thus, if teachers are given sufficiently motivating information on the relationship of these behaviors to desired outcomes, the potential for a straightforward translation of research to practice seems most promising.

## NOTE

<sup>1</sup>The Immediacy Behavior Measure used by Gorham (1988) included 34 items, twenty new items to measure verbal immediacy and 14 nonverbal items used previously by Richmond, Gorham and McCroskey (1987). Of these, three items (Refers to class as "my" class or what "I" am doing; Asks questions which have specific, correct answers; and Criticizes or points out faults) correlated below .25 with the total score for verbal immediacy items; one item (Sits on a desk or in a chair while teaching) correlated below .25 with the total score for the nonverbal items. All other items were correlated at least .45 with the respective total. These four items were eliminated as weak items in processing the data for that study. As a crosscheck, all 34 items were included on the questionnaire used in the present study. The same items were again eliminated as weak items. The item "Sits on a desk or in a chair while teaching" was reworded to read "Sits in a chair while teaching" because the two behaviors included in the original item were perceived as potentially contradictory in terms of immediacy effect; however, this item was still eliminated as weak.

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