

RELATIONSHIPS BETWEEN THE NTE, A MEASURE OF  
CLASSROOM EMOTIONAL CLIMATE, AND OTHER  
VARIABLES IN A GROUP OF INTERNS

Harold T. Perry  
North Texas State University

Introduction

The study of teacher characteristics and of classroom variables deserves high priority in educational research. It merits high priority because of the significant influence of the teacher in the classroom and the significance of classroom teaching for the society in which it occurs. Support for the above statements is to be found in the research of Getzels and Thelen (2), Flanders (1), and Medley and Mitzel (5), and many others. Getzels and Thelen (2, p. 62) state:

Whatever the philosophical crosscurrents and confusions about learning, there are few Americans who would not subscribe to the general proposition that "education is a fine thing." And supporting all this at a more fundamental level is our ingrained tradition that the very fabric of democracy depends on our educational institutions.

A deep commitment to the importance of classroom teachers in the process of education is indicated by Getzels and Thelen (2, p. 61) in their statement:

. . . there is nothing that goes on in the classroom that is not of ultimate consequence for the social order, and there is not much that is of immediate consequence for the social order that is not reflected in some way in the classroom.

Flanders (1, p. 203) states that,

. . . the teacher, more than anyone else in the classroom, influences the social processes that change the structures of authority, goal orientation, and social access. These, in turn, determine the degree of flexibility of structural change. In addition, how the teacher uses his influence is likely to determine whether or not students react with independent or dependent behavior.

Medley and Mitzel (2, p. 247) state:

Certainly there is no more obvious approach to research on teaching than direct observation of teachers while they teach and children while they learn.

The search continues for characteristics of teachers and factors in classrooms that make positive differences in education. This study stems from the research on the use of classroom observation in relation to other teacher characteristics.

The major purpose of this study was to investigate the relationships among Classroom Emotional Climate, Total Score and score on the Professional Information section of the National Teacher Examination, Intern Grades, University Grade-Point Average, and Person Perception in a group of interns. A second purpose was to investigate any differences between elementary and secondary interns on these variables. A third purpose was to investigate any sex differences on the variables under study.

#### Definition of Terms

The major terms used in this study are defined below:

1. Scores on Professional Information (PI) are the scores reported on this section of the National Teacher Examinations. Total Score (TOT) is the total score reported on the Examination for each intern.
2. University Grade-Point Average (UGPA) is defined as the over-all grade-point average of each intern for courses for which they enrolled in the University of Florida. This average does not include internship grades.
3. OScAR is an abbreviation for Observation Schedule and Rating Form.
4. NTE is an abbreviation for National Teacher Examinations.
5. Classroom Emotional Climate is defined as scores made on that section of the OScAR that is designed specifically to measure emotional climate. The sub-parts of this section of the OScAR are Manifest Teacher Hostility (MTH), Supportive Teacher Behavior (STB), and Disorderly Pupil Behavior (DPB).

6. Intern grade (IG) is defined as the grade received for intern teaching.

7. Person Perception is defined as scores obtained on the "Debbie" (DEB) and the "Alice" (AL), two instruments developed at the University of Florida to measure the ability to infer self-reports of children. These instruments will also be referred to as case-study instruments.

8. Education interns are undergraduates placed in the public schools to gain experience in teaching as a prerequisite to being certified. Elementary interns spend twelve weeks in the field, secondary interns spend ten weeks. Interns report for duty each day at starting time and spend the entire school day in the classroom to which they are assigned.

#### Sample

The sample for this study is composed of forty elementary female interns, eighteen secondary female interns, and ten secondary male interns. These interns were included in another study made by Gordon (3). While data for the Gordon study were collected, additional data were gathered for this study.

In the original selection of interns a major determinant was geography. Interns located further than approximately 110 miles from campus were not selected.

Those interns whose teaching field included elementary and secondary levels such as those teaching music, art, physical education, and speech pathology were ruled out.

Mathematics and science teachers were few in number. Accordingly, no attempt was made to secure proportionate numbers in each secondary subject matter area.

Experience had shown that it was best, if possible, to select interns from schools where more than one intern was teaching. Consequently, this limitation was also added to that of geographical proximity.

The sample for this study, then, consists of 68 intern teachers, forty elementary females, eighteen secondary females, and ten secondary males on whom all data could be obtained.

The sample for the "Debbie" and "Alice" reliability study consisted of 30 students at the University of Florida.

Most of these students had completed their internship and were teaching though a few had not yet completed their internship.

### Procedures

Data for Classroom Emotional Climate were gathered by trained observers. The observers used the Observation Schedule and Rating Form which was developed by Medley and Mitzel in making their observations (5, p. 31). The purpose of this instrument is to measure classroom emotional climate. A high score on this measure indicates a classroom where external manifestations of friendliness are common and hostile reactions are rare. The instrument has a reliability of 0.90 (5, p. 269). This technique provided data on Manifest Teacher Hostility, Supportive Teacher Behavior, and Disorderly Pupil Behavior which are all sub-parts of Total Classroom Emotional Climate.

Scores on the NTE, Intern Grades, and University Grade-Point-Average were obtained from University of Florida records. The NTE consists of a battery of tests designed to measure the professional background, mental ability, and general cultural knowledge of teachers. Only the Professional Information and Total scores were used in this study (6).

The measures of Person Perception which were called "Debbie" and "Alice" were administered to the interns in groups of twenty and twenty-five for almost all of the interns. A few of these instruments were administered individually, but the procedure is the same since these instruments are essentially self-administered. These instruments measure the ability to infer self-reports of children from anecdotal records. The measures were developed by Gordon and Spears (4). The task for the examinee is to read anecdotal observations about the children and fill out a self-report form as he thinks the child would have filled it out; the key is the self-report as the child actually filled it out.

Gordon and Spears (4, p. 20) report that the measures of person perception reliably detect the difference between individuals to infer self-reports of children. A study was made to establish the test-retest reliability of the instruments. Thirty students at the University of Florida were used in this study. A period of two weeks elapsed between first and second administrations of the instruments. Correlation coefficients of .29 and .33 were found for the "Debbie" and "Alice" respectively.

## Results

Six questions were raised for study. A brief resume of the findings on each question follows. The first five questions concerned relationships between the variables. Table 1 is the correlation matrix for the group of elementary interns; Table 2 is the matrix for secondary female interns, and Table 3 is the matrix for secondary male interns.

Question One dealt with the relationship between the NTE and the OScAR. Significant, negative correlations were found between Manifest Teacher Hostility and Professional Information and Total Score on the Examinations in the group of elementary female interns only. Otherwise no significant relationships between the National Teacher Examinations and the OScAR were found.

Question Two dealt with the relationships between University Grade-Point Average and scores on the NTE. Grade-Point-Average was found to hold a significant, positive relationship to both Professional Information and Total Scores on the Examinations only in the group of elementary interns.

Question Three dealt with the relationships between Person Perception and scores on the NTE. No significant relationships between these variables were established in any of the three groups studied.

Question Four dealt with the relationships between the NTE and Intern Grades. No significant relationships were found for these variables in any of the three groups studied.

Question Five dealt with the relationships between Classroom Emotional Climate and Person Perception. No significant relationships were found for these two variables.

Multiple correlations were computed using the subparts of the OScAR, Intern Grade, and Grade-Point-Average to predict Professional Information. These correlations are reported in Tables 4, 5, 6, and 7. It was found that twenty-nine percent of the variance in Professional Information could be predicted using these variables. The only significant multiple correlation found was for elementary interns, the largest group.

Analysis of variance was used to test for differences and these findings are reported in Tables 8, 9, 10, and 11. It was found that elementary interns manifest significantly more hostility than secondary interns. Elementary interns scored significantly higher than secondary interns on Total Score on the NTE.

Table 1  
Correlation Matrix for 40 Elementary Female Interns

	Variable									
	AL	EC	MTH	STB	DPB	NTE-PI	NTE-TOT	UPGA	IG	
1	1.00									
2	-.06	1.00								
3	-.10	-.07	1.00							
4	.04	.23	-.87*	1.00						
5	-.06	.13	.67*	-.39**	1.00					
6	.17	.01	-.85*	.61*	-.38**	1.00				
7	-.09	-.23	.27	-.42	.11	-.09	1.00			
8	-.20	-.14	.25	-.40*	.02	-.13	.83*	1.00		
9	.16	.00	.28	-.25	.27	-.14	.36**	.37**	1.00	
10	.06	.11	.49*	-.48*	.24	-.42*	.26	.28	.36**	1.00

\*Significant at .01 level.

\*\*Significant at .05 level.

Table 2

## Correlation Matrix for 18 Secondary Female Interns

	Variable									
	DEB	AL	EC	MTH	STB	DPB	NTE-PI	NTE-TOT	UGPA	IG
1	1.00									
2	.08	1.00								
3	-.19	-.02	1.00							
4	.07	.06	-.84*	1.00						
5	-.35	-.12	.67*	-.44	1.00					
6	.13	-.11	-.68*	.25	-.27	1.00				
7	-.01	.05	-.22	.23	.12	.27	1.00			
8	.07	-.09	-.12	.20	.13	.09	.88*	1.00		
9	.08	.02	-.03	-.24	-.13	.31	.17	.02	1.00	
10	.03	.07	.10	-.15	-.08	-.08	.06	-.03	.11	1.00

\*Significant at .01 level.

Table 3

## Correlation Matrix for 10 Secondary Males

	Variable									
	DEB	AL	EC	MTH	STB	DPB	NTE-PI	NTE-TOT	UGPA	IG
1	1.00									
2	.58	1.00								
3	-.24	-.23	1.00							
4	.17	.08	-.74**	1.00						
5	-.32	-.32	.83*	-.56	1.00					
6	.14	.21	-.76**	.14	-.56	1.00				
7	-.25	.37	.13	-.12	.01	-.12	1.00			
8	.10	.66**	.04	-.19	-.07	.08	.89*	1.00		
9	.09	.58	-.16	.00	-.34	.15	.36	.44	1.00	
10	.31	.73**	-.03	-.07	-.22	.02	.18	.38	.67**	1.00

\*Significant at .01 level.

\*\*Significant at .05 level.



Table 4

Multiple Correlation Coefficients and Corresponding  
Coefficients of Multiple Determination  
For 40 Elementary Interns

Variables	R	R <sup>2</sup>	F
PI, MTH	.42	.18	1.20
PI, MTH, GPA	.49	.24	1.54
PI, MTH, GPA, DPB	.54*	.29	3.5 *
PI, MTH, GPA, DPB, STB	.54*	.29	3.0 *
PI, MTH, GPA, DPB, STB, IG	.54*	.29	2.5 *

\*Significant at the .05 level.

Table 5

Multiple Correlation Coefficients and Corresponding  
Coefficients of Multiple Determination in A  
Group of 18 Secondary Females

Variables	R	R <sup>2</sup>	F
PI, DPB	.24	.06	.14
PI, DPB, STB	.31	.09	.21
PI, DPB, STB, MTH	.40	.16	.41
PI, DPB, STB, MTH, GPA	.44	.19	.49
PI, DPB, STB, MTH, GPA, IG	.45	.20	.54

Table 6

Multiple Correlation Coefficients and Corresponding  
Coefficients of Multiple Determination in A  
Group of 10 Secondary Males

Variables	R	R <sup>2</sup>	F
PI, GPA	.36	.13	.07
PI, GPA, DPB	.39	.15	.09
PI, GPA, DPB, MTH	.41	.17	.10
PI, GPA, DPB, MTH, IG	.42	.18	.11

Table 7

Multiple Correlations Coefficients and Corresponding  
Coefficients of Determination for All 68 Interns

Variables	R	R <sup>2</sup>	F
PI, GPA	.32	.10	1.06
PI, GPA, DPB	.33	.11	1.20
PI, GPA, DPB, IG	.34	.12	1.43
PI, GPA, DPB, IG, STB	.34	.12	1.43

Table 8

Analysis of Variance for 40 Elementary Interns  
Versus 28 Secondary Interns on Emotional Climate

Source	df	Mean Squares	F
Treatments	1	1297.85	4.39*
Error	66	295.29	

\*Significant at .05 level.

Table 9

Analysis of Variance for 40 Elementary Interns Versus  
28 Secondary Interns on Manifest Teacher Hostility

Source	df	Mean Squares	F
Treatments	1	3.94	4.14*
Error	66	0.95	

\*Significant at .05 level.

Table 10

Analysis of Variance for 40 Elementary Interns Versus  
28 Secondary Interns on Professional Information

Source	df	Mean Squares	F
Treatments	1	3880.84	10.74*
Error	66	361.23	

\*Significant at the .01 level.

Table 11

Analysis of Variance for 40 Elementary Interns Versus  
28 Secondary Interns on Total Score

Source	df	Mean Squares	F
Treatments	1	234951.24	7.18*
Error	66	32739.74	

\*Significant at the .01 level.

Males scored significantly lower than females on Supportive Teacher Behavior. Only this difference between sexes was significant./

When analysis of variance was computed for the three groups together there were significant differences among the three groups in Manifest Teacher Hostility and Supportive Teacher Behavior only.

### Discussion

The evidence from this study suggests that a thorough study of the relationships between Manifest Teacher Hostility and Professional Information would be useful. So would further study of Supportive Teacher Behavior and Disorderly Pupil Behavior as they relate to Professional Information. Are these relationships due to a particular kind of Professional Information? Would these relationships hold in teachers as well as in interns? Is intelligence a factor in the manifestation of teacher hostility?

Person Perception needs more study. Further development and refinement of measures of this important variable would be a worthwhile undertaking. Further investigation of the instruments used in this study would probably be productive. Studies of the relationships between the self-concepts of teachers and the ability to infer self-reports of children might be productive.

There is evidence of sex differences on some of the variables in the study. A well-designed study of sex differences on Supportive Teacher Behavior would be interesting and probably useful. A study of other variables such as intelligence and personality as they relate to Supportive Behavior in males and females would be particularly interesting. Another useful study would be to investigate the effects, if any, of Supportive Teacher Behavior on pupil achievement or pupil-teacher rapport.

Differences in elementary and secondary interns were revealed by these data. Do these differences hold in elementary and secondary teachers? An investigation of differences on these variables as well as others in teachers might prove to be productive. A well-designed study of variables related to the differences in Manifest Teacher Hostility and Disorderly Pupil Behavior would be worthwhile.

## Conclusions

An understanding of classroom dynamics is important to better preparation and selection of teachers for it is upon these dynamics that the success or failure of learning is largely based. The evidence from this study leads to a number of tentative conclusions that are important in studying these dynamics. These tentative conclusions are:

1. Observational techniques such as the OScAR offer considerable promise in studying classroom behavior of students and teachers. The sub-parts are more revealing than the total scores on the OScAR.

2. The use of standardized measures of such variables as Professional Information may yield productive results in studies of teachers.

3. There are some male-female differences in teaching interns that are crucial, and these differences probably exist also in teachers. Research design must take these differences into account.

4. There are some elementary-secondary differences in teaching interns that are crucial, and these differences probably exist also in teachers. Research design must take these differences into account.

5. The evidence from this study and from the review of the research is far from conclusive concerning the use of the National Teacher Examinations for such important purposes as teacher certification, selection, and promotion.

## Bibliography

1. Flanders, Ned M. "Diagnosing and using social structures in classroom learning," The Dynamics of Instructional Groups. Fifty-Ninth Yearbook of the National Society for the Study of Education, Part II. Chicago: University of Chicago Press, 1960.
2. Getzels, Jacob W., and Herbert A. Thelen. "The classroom as a unique social system," The Dynamics of Instructional Groups. Fifty-Ninth Yearbook of the National Society for the Study of Education, Part II. Chicago: University of Chicago Press, 1960.
3. Gordon, Ira J. Relationships Between Personality Variables and Classroom Behavior of Teaching Interns, United States Office of Education Project No. 1717 (Gainesville, Florida: University of Florida, 1964). Final Report.
4. Gordon, Ira J., and William D. Spears. Person Perception: The Effect of Training in Perceptual Theory, Observation and Analysis of Behavior Upon Accuracy of Prediction of Children's Self-Reports, United States Office of Education Project (College of Education, University of Florida, January, 1962), mimeographed.
5. Medley, Donald M., and Harold E. Mitzel. "Measuring Classroom Behavior by Systematic Observation." In N. L. Gage (ed.), Handbook of Research on Teaching. Chicago: Rand McNally and Company, 1963.
6. Ryans, David G. "The 1948 National Teacher Examination," Journal of Experimental Education. 17:1948, 1.