

AN ANALYSIS OF THE OBSERVED CHANGE IN
THE STUDENT-TEACHERS' PUPIL CONTROL
IDEOLOGY AS COMPARED TO THE PUPIL
CONTROL IDEOLOGY OF THE
COOPERATING TEACHER

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PREFACE

This dissertation study is concerned with the changes in the pupil-control ideology of prospective teachers during the student teaching experience. Its primary emphasis is toward a possible explanation of the radical shift in the student teacher's ideology toward a more "structured" position.

It would be an impossibility to name all those persons and institutions responsible for this study. However, I would like to express my appreciation to the following people: Dean Helmer Sorenson for his leadership as Chairman of Record; Dr. Leon Munson whose wise counsel and encouragement served as a guide and impetus for the study; Dr. D. J. Milburn whose wisdom and wit encouraged, and allowed, me to do my best at all times; Dr. John David Hampton whose close scrutiny and valuable criticisms allowed me to conduct a worthy and respectable study; Dr. Ronald Schnee for his advice and assistance on the proper statistical procedures; and to Edward Porter for his assistance in entering the data on IBM cards, performing the analyses, and reporting the results.

I also wish to express my gratitude to my children Ann, Steve, and Nancy for their patience and understanding. Finally, a special thanks goes to my husband J. L. Hamil.

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CHAPTER I

INTRODUCTION

The Problem

The origins of the research to be summarized in this study lay in the investigator's inability to find a reason for the apparent shift in classroom-control philosophy experienced by most student teachers during the student teaching experience. The primary concern of the study was to determine the extent and durability of the student teacher's change in pupil control ideology.

One of the most traumatic experiences of the student-teaching program is the student-teaching experience. Likewise, the most traumatic part of the student-teaching experience is the control or discipline of the students.¹

One of the possible explanations for this trauma is that the curricula of the student-teaching programs of teacher training organizations are woefully inadequate in instruction dealing with discipline methods and techniques.²

¹Donald J. Willower and Ronald G. Jones, "When Pupil Control Becomes an Institutional Theme," Phi Delta Kappan, XLV (November, 1963), pp. 107-109.

²G. Sheviakov and F. Redl, "Discipline for Today's Children and Youth," Washington D.C.: National Education Association, 1944, pp. 2-26.

This leaves a significant gap in the student teacher's training since the problem of discipline (student control) has become an increasingly important problem to most schools. This increase has become so prevalent in the teaching profession that it has become the "integrative theme" in some schools.³ The major purpose of this study was to investigate the effects of the student teacher's first prolonged exposure to the educational institution having had very little, if any, training to cope with its main integrative theme--pupil control techniques.

Despite the mounting evidence of the long-range ineffectiveness of punitive or custodial control methods,⁴ teachers still are prone to use punitive methods as a means of achieving a short-range objective.⁵ The investigator was interested in the effects of such pupil control techniques on the philosophy or ideology of the student teacher assigned to the cooperating teacher who uses such methods of discipline. Assuming that the student teacher and the cooperating teacher have a different pupil control ideology and that some adjustment must be made by one or both of the subjects in order for them to co-habit successfully, which of the two will make the more significant change in their

³Willower and Jones, p. 108.

⁴J. S. Kounin, P. V. Gump, and J. J. Ryan, "Explorations in Classroom Management," Journal of Teacher Education, 12, 1961, pp. 235-246.

⁵Ibid., p. 237.

pupil control ideology? If either one or both subjects experience such change, is it a permanent change or is it temporary (situational) in nature? These and other questions were considered in this study.

The investigator was interested in answering such questions because it is generally observed that as teachers become more rigid (custodial) in their pupil control techniques the less opportunity the student has to enter into discovery-type learning experiences.⁶ Torrance⁷ listed eight factors which affect the development and/or expression of creative thinking. These eight factors are as follows:

1. Educational level of student
2. Differential treatment of students
3. Premature attempts to eliminate fantasy
4. Unnecessary restrictions on curiosity
5. Conditions resulting in fear and timidity, in both authority and peer relations
6. Overemphasis on mechanical verbal skills
7. Overemphasis on prevention-type control
8. Lack of resources for working out ideas⁸

⁶Ned A. Flanders and S. Havamaki, "The Effect of Teacher-Pupil Contacts Involving Praise on Sociometric Choices of Students," Journal of Educational Psychology, 51, 1960, pp. 65-68.

⁷Paul A. Torrance, "Factors Affecting Creative Thinking in Children: An Interim Research Report," Merrill-Palmer Quarterly of Behavior Development, Vol. 7, No. 3, 1961, pp. 171-180.

⁸Ibid., p. 177.

A close investigation of the factors suggested by Torrance will show that six (6) of the eight factors are directly related to pupil control or discipline techniques. This would indicate that creative learning and a rigid, authoritarian atmosphere in the classroom perhaps are incompatible. In fact, the opposite atmosphere, "a humanistic model of pupil control ideology," is more conducive to creative learning.⁹

The idea of teachers adopting and/or developing a structured, custodial approach to pupil control is diametrically opposed to the type of learning atmosphere necessary for propagating the "American Dream."¹⁰ However, even if the public schools or its teachers are not interested in propagating the "American Dream," learning simply does not occur in an atmosphere that is perceived to be threatening or fearful to the student. Kounin and Gump conclude that:

. . . children who have punitive teachers: manifest more aggression in their misconduct, are more unsettled and conflicted about misconduct in school, are less concerned with learning and school-unique values, show some, but not consistent, reduction in rationality pertaining to school misconduct.¹¹

⁹F. Redl, "Strategy and Techniques of the Life-Space Interview," American Journal of Orthopsychiatry, 29. 1959. pp. 1-18.

¹⁰U.S. Office of Education, Life Adjustment Education for Every Youth," U.S. Office of Education Bulletin, 22. 1951, Reprinted in 1953, pp. 9-13.

¹¹Jacob S. Kounin and Paul V. Gump, "The Comparative Influence of Punitive and Nonpunitive Teachers Upon Children's Concept of School Misconduct," Journal of Educational Psychology, 52 (1), 1961, pp. 44-49.

Significance of the Study

The significance of this study can be developed in two distinct ways--from a societal perspective and from a human-development perspective. Both of these logical bases were examined.

Significance of the Study From a Societal Perspective

The investigator attempted to establish the need for the study conducted as a logical step in the perpetuation of the American Culture. The logical steps for establishing this line of argument are as follows:

1. The American Public School System is primarily a service organization.¹²
2. Although the school serves many individuals, its primary service orientation is to society itself.¹³
3. The primary service that the school renders to society is that it aids in the socialization process of the populace.¹⁴

¹²Amitai Etzioni, Modern Organizations, (Englewood Cliffs: Prentice-Hall, 1964), pp. 3-27.

¹³Ibid.

¹⁴Margaret Mead, "Why is Education Obsolete," Harvard Business Review, Vol. 36 (6) Nov.-Dec., 1958, pp. 23-30.

4. The American society (democratic form of government) is based on the principle of free enterprise and majority rule.¹⁵
5. Free enterprise and majority rule can best be propagated through an educated populace who respect the rights and privileges of others.¹⁶
6. An educated populace who respect the rights and privileges of others can best be perpetuated through a "discovery" and "free inquiry" form of education.¹⁷
7. Discovery and inquiry can best occur in a classroom setting that is conducive to this type of learning.¹⁸
8. A classroom atmosphere that is conducive to discovery and inquiry-type of learning is most possible if the classroom teacher creates such an atmosphere.¹⁹

¹⁵Office of Education, "What Goes on in School," U.S. Office of Education Bulletin, 1951 (22) Reprint 1953, pp. 9-13.

¹⁶Ibid., p. 9.

¹⁷D. N. Bogoiavlenski and N. A. Menchinskaior, "The Psychology of Learning 1900-1960," in B. Simon and Joan Simon (Eds.), Educational Psychology in the U.S.S.R., Stanford: Stanford University Press, 1963, pp. 101-161.

¹⁸Ibid., p. 106.

¹⁹S. J. Parnes, "Education and Creativity," Teachers' College Record, 64, 1963, pp. 331-339.

9. Such an atmosphere can be created best by the classroom teacher who has a "humanistic" pupil control ideology.²⁰
10. The student-teaching experience causes a certain amount of disorientation for the student teacher.²¹
11. Disorientation is normally followed by imposed structure on the part of the disoriented.²²
12. The student teacher usually develops a more rigid (custodial) pupil control ideology (PCI) during the student teaching experience.²³
13. Since the custodial PCI is not conducive to the type of learning necessary to perpetuate our society, and the student teacher will be teaching in the school system, it becomes necessary to determine the magnitude, direction, duration, cause(s), and effect(s) of such changes in PCI from the beginning of the student teaching experience to the end.

²⁰Kounin, Gump, and Ryan, p. 238.

²¹Wayne K. Hoy, "The Influence of Experience on the Beginning Teacher," in M. W. Miles and W. W. Charters, Jr., Learning in Social Settings, Boston: Allyn and Bacon, 1970, p. 615.

²²Leon Festinger, A Theory of Cognitive Dissonance, New York: Harper and Row, 1957.

²³D. J. Willower, T. L. Eidell and W. K. Hoy, The School and Pupil Control Ideology, The Pennsylvania State University Studies #24. University Park, 1967, p. 5.

14. If these nuances can be determined, the investigator can exercise some control over the teaching atmosphere and, in turn, over the perpetuation of the enculturation processes (society).²⁴

Rationale from a Human Development Perspective

The second approach of establishing the need for the study has a human-development model as its genesis. The logical basis for this rationale was as follows:

1. The Public School System of the United States of America is a service organization.
2. The public school has as its primary motive the development of the individual to his maximum capacity.²⁵
3. The individual can develop to his optimum level only if he is afforded the opportunity.²⁶
4. The opportunity for optimum development of the whole person can best transpire in an accepting, (humanistic) non-threatening atmosphere.
5. A non-threatening atmosphere can best be developed by teachers who have a humanistic pupil control ideology.

²⁴Fred M. Kerlinger, Foundations of Behavioral Research, New York: Holt, Rinehart, and Winston, 1964.

²⁵A. H. Brayfield, "Human Effectiveness," The American Psychologist, 20, 1965, pp. 645-651.

²⁶J. H. Fischer, "Now for the Future," Teachers' College Record, 66, 1965, pp. 345-351.

6. However, during the student-teaching experience, the prospective teacher usually assumes a much more custodial pupil control ideology.
7. Teachers who have a custodial PCI are more punitive in their classroom control techniques than teachers who have a humanistic PCI.
8. The differences in the PCI of these two groups of teachers make it necessary to determine the magnitude, direction, duration, cause(s), and effect(s) of such changes in the PCI.
9. If those nuances can be determined, the investigator has some control over the classroom and, in turn, the development of the individual.

Review of Literature

Willower and Jones²⁷ have correctly identified the public school as a social system. More specifically, it is a service-type system which has no control over its selection of clientele. One of the functions of any social system is some regulation or sanctioning of its members.²⁸ These sanctions may be in the form of group influences or individual pressures. More often than not, the principals and teachers of a school system are charged with the

²⁷Willower and Jones, p. 108.

²⁸B. Othanel Smith, "Discipline," Clearing House, 21, 1969, pp. 292-296.

responsibility of maintaining a level of order which will be conducive to the learning situation.²⁹ The burden of maintaining order and dealing with the various forms of disorder that may occur in the school falls primarily upon the shoulders of classroom teachers.

The procedures, including the written and unwritten rules, by which order is maintained are referred to as discipline. In the Western world, the system of school discipline has been moving from the position of force to persuasion with an eye for eventual self-control.³⁰ Even so, teachers and principals alike must resort to force when self-control and persuasion fail.

Importance of Discipline in the Public School

In an organizational sense, whenever any activity or procedure requires the use of time and/or resources, it becomes a concern of that organization. Certainly discipline and the control of pupil behavior does require a great deal of the teacher's time and usually involves considerable resources.³¹

²⁹Ibid., p. 292.

³⁰Donald L. Barnes, "An Analysis of Remedial Activities Used by Elementary Teachers in Coping with Classroom Behavior Problems," Journal of Educational Research, 56, 1963, pp. 544-547.

³¹Barnes, p. 544.

The increase in time spent in disciplinary measures has increased considerably with the past forty years. This increase is primarily a function of the change in pupil control philosophy.

The disciplining of students by force is the least time consuming of all control techniques. But, if a teacher uses such methods, she usually finds that the cure was worse than the illness. The short-range effect of the suppression of the undesirable activity does not compensate for the negative "ripple effect" on the other students.³² The control methods which are built on self-direction are much more time consuming, require better trained teachers, and usually have a much more desirable effect than the more punitive methods.³³ Barnes³⁴ reported that disciplinary practices used most often in the elementary school are: 1) non-action--that is, ignoring the behavior; 2) providing activities through special assistance, enrichment, etc.; 3) reasoning with children; and 4) individualizing the work

³²Jacob S. Kounin and Paul V. Gump, "The Ripple Effect in Discipline," Elementary School Journal, 62, 1958, pp. 158-162.

³³Jacob S. Kounin and Paul V. Gump, "The Comparative Influence of Punitive and Non-punitive Teachers on Children's Concepts of School Misconduct," Journal of Educational Psychology, 52, 1961, pp. 44-49.

³⁴Barnes, p. 149.

of the student. Garrison³⁵ reported the most negative measures used in high schools to be: 1) reprimand before the class; 2) reprimand in private; 3) detention; 4) assignment to special tasks; 5) sending the student from the room; 6) giving the student a special seat; 7) sending him to the principal; and 8) reducing the student's grades. A summary of these studies indicates that a new type of teaching may be occurring--management teaching--a type of teaching in which the teacher concerns herself more with management than instruction.³⁶

Student Teachers and Discipline

The discipline of students is a crucial factor to all teachers but it is especially problematic to the student teacher. This is so for three reasons. First, the student teacher has had very little training in disciplinary or pupil control methods. Second, the student teacher is experiencing severe stress from the socialization process of the organization and disciplinary problems are simply an added burden. Third, the student teacher has had no forewarning of the amount of time and energy that will be consumed by discipline problems.

³⁵Karl C. Garrison, "A Study of Student Disciplinary Practices in Two Georgia High Schools," Journal of Educational Research, 53, 1959, pp. 153-156.

³⁶M. W. Charters, Learning in Social Settings, Boston: Allyn and Bacon, 1970, p. 615.

The Student Teacher and the Cooperating Teacher

At the same time the student teacher is trying to acclimate herself to the classroom setting, she is also experiencing group pressures from the cooperating teacher to accept the norms of the profession.³⁷ These norms usually involve a more structured or custodial point of view.³⁸ Hoy bases the conceptual framework of his (1968) study on the argument that the student teacher assumes a more custodial Pupil Control Ideology because she is caught in a dual socialization process and, therefore, assumes a PCI more like those whom she sees as being "significant others,"³⁹ e.g., the cooperating teacher to whom she is assigned. He states.

. . . Public school teachers go through a double socialization process. Initial socialization to professional norms and values occurs during college preparation, where teaching and learning are likely to focus on ideal images and practices. The second phase of the socialization process begins as new teachers enter the "real" teaching world as full-time members of a school organization. Here neophytes may suddenly be confronted with a set of organizational norms and values at variance with those acquired in formal preparation; . . . If beginning teachers are confronted with a relatively custodial pupil control ideology on the part of the experienced teachers, and if these experienced teachers constitute a group of "significant others" (to the student teacher), then it seems reasonable to predict a positive relationship between teaching experience and a change

³⁷ Hoy, p. 616.

³⁸ Ibid., p. 315.

³⁹ W. Waller, The Sociology of Teaching, New York: Wiley and Sons, 1932.

toward a more custodial pupil control ideology.⁴⁰

While Hoy's findings lend credence to this idea, the researcher was of the opinion that another explanation was equally feasible. This alternate solution was the primary source of theoretical framework for this study.

The conceptual framework for the present study departs from the theoretical bases suggested by Hoy in that it offers an alternative explanation for the rise in the PCI Form scores of the student teaching experience to the end.

There is certainly strong evidence that the student teacher is experiencing a dual socialization conflict. The investigator attributes one socialization conflict to the differences between the "real" and "ideal" worlds of teacher preparation and actual teaching. The second conflict comes as the student teacher is trying to reconcile the differences in her values and beliefs with those of the school as an organization. In this turmoil she is experiencing, the student teacher strives to find direction; not by emulating that person whom she regards as a significant other but by the very nature of her being, of trying to create order out of chaos, sense out of nonsense, and logic out of the illogical.⁴¹ Festinger relates this as an attempt to form consonance out of dissonance. As this transpires, the student teacher begins to structure that

⁴⁰Hoy, p. 615.

⁴¹Festinger, p. 65.

which is most easily structured--the classroom setting. This increased structure comes as a natural result of the chaos being felt by the student teacher, not necessarily as an attempt to conform to a set of norms. If the primary motive of the student teacher was to conform to the perceived PCI Form score of the cooperating teacher, her PCI Form score would rise or decline toward the PCI Form score of the cooperating teacher. However, if the rise in the student teacher's PCI Form scores is a function of the conflict being experienced, it will rise regardless of the relative position of the cooperating teacher's PCI Form score.

Further, if the stress generated by the student teaching experience is situational, the PCI Form scores of the student teacher should rise noticeably during the student teaching experience and then decline as soon as the student teacher has been assigned to a permanent position and no longer feels the pressures of the dual-socializing. To this end, the researcher generated the following propositions:

1. The PCI Form score of the student teachers will rise significantly from the beginning of the student teaching experience to the end.
2. The student teacher's PCI Form score will increase regardless of its relative position to the PCI Form score of the cooperating teacher.
3. The student teacher's PCI Form score will decrease

after the student teaching experience, so that those teachers with the least experience (1-2 years) will have the lowest PCI Form scores even though they may be higher than the highest cooperating teacher's PCI Form scores immediately after the student teaching experience.

Statement of Purpose

The purpose of this study was to determine the nature and duration of the rise noted in the pupil control ideology scores of student teachers during the eight-week student teaching experience. Hypotheses were deduced to test the predictions that the observed rise in the PCI Form scores of student teachers is a situational increase and that such a rise will decrease after the student teaching experience is over. The investigator used biographical information, data collected in previous research, pre- and post-test measures of PCI on the student teacher subjects, and the PCI Form scores of the cooperating teachers to test the hypotheses stated.

Major Assumptions

For the purpose of this study, the following assumptions were made:

1. That Pupil Control Ideology is a legitimate area of study.
2. That Pupil Control Ideology (PCI) can be isolated and measured.

3. That the Pupil Control Ideology Form is a valid and reliable instrument for measuring the PCI of the classroom teacher.
4. That the attitudes expressed by the student teachers at the beginning and end of the student teaching experience were both accurate expressions of their classroom control techniques.
5. That the biographical data collected on the cooperating teachers are those variables most related to the PCI Form scores of subjects.

Statement of Hypotheses

In light of the statement of the problem, the purpose, and the major assumptions, the following hypotheses were generated for the purpose of this study:

Ho. 1. There will be no significant difference in the PCI Form scores (pre-test) of student teacher subjects and the PCI Form scores of cooperating teacher subjects.

Ho. 2. There will be a significant difference between the PCI Form scores (post-test) of student teacher subjects and the PCI Form scores of cooperating teacher subjects.

Ho. 3. There will be no significant difference between the pre-test and post-test PCI Form scores of the student teacher subjects.

Ho. 4. There will be a significant relationship between the PCI Form scores of the cooperating teachers and the PCI Form score changes of the student teachers.

Ho. 5. The correlation of the student teacher's PCI Form scores (pre-test) and the cooperating teacher's PCI Form scores will be significantly less than

the student teacher's PCI Form scores (post-test) and the cooperating teacher's PCI Form scores.

Ho. 6. There will be no significant relationship between the pre-test and post-test PCI Form scores of student teachers.

While the investigator did extensive analyses of the biographical data no hypotheses were generated concerning their relationship to the PCI Form scores of student teachers who are doing their practice teaching.

In testing the hypotheses stated, the investigator was attempting to establish the relationship between the student teaching experience and the subjects' PCI Form index. The researcher was hypothesizing that the student teaching experience would cause the student teacher to become more custodial in her approach to pupil control in the classroom. More specifically, the researcher felt that as the teacher experienced more and more socializing stress her feeling of "need for structure" would increase. Consequently, her need for structure would be made manifest by an increase in her PCI Form score. While the teacher training programs of most teacher-training institutions lay heavy stress on the permissive, democratic, or laissez-faire type classroom atmosphere, the student teaching assignment is so traumatic to the student teacher that acquired needs will take priority over expressed needs. In other words, the situation will appear so chaotic to the student teacher that she will begin to impose structure on the situation as a means of maintaining her own equilibrium. As a result the student teachers will assume a more custodial method of

dealing with classroom behaviors. This is not to be confused with the custodial perspective assumed by teachers with several years' teaching experience. The increased PCI Form scores of teachers with several years' teaching experience is a result of factors other than the situational stress caused by the student teaching experience. Previous studies have found that teachers with five or more years of experience view the permissive atmosphere allowed by the student teacher as a sign of weakness or loss of control of the students.⁴⁶ As a result of this situation the investigator was predicting that the older, more experienced teachers would have a more custodial view of classroom control techniques.

⁴⁶Willower, et. al., p. 108.

CHAPTER II

METHODS

The methodology or procedural aspects of the study was divided into three distinct parts: (1) the pre-experimental procedures, (2) the experimental procedures, and (3) the analysis of the data. These three parts are considered in chronological order in Chapter II.

Pre-Experimental Procedures

The pre-experimental part of the study characterized by five (5) distinct steps are as follows:

1. Choice of a proper research design
2. Choice of data collection instruments
3. Choice of statistical procedures
4. Selection of population sample
5. Correspondence to cooperating institutions

While these steps were considered in the chronological order given above, this is not to imply that the decisions concerning one step were made without considering the other steps. All steps were sketched out and compared several times before they were finally adopted for the study. As a preliminary precaution after the data were collected, the investigator sought the advice of a research consultant

before making the final decisions shown in this chapter. The design, statistical tests, and instruments are considered to be more than adequate to test the hypotheses stated earlier.

Step I: Choice of Research Design

The investigator is using the words "research design" to mean the plan, structure, and strategy of investigation conceived so as to obtain answers to research questions and to control variance. The plan is the over-all scheme or program of research problem; the structure is the more specific structure or paradigm of the operation of the independent variables; the strategy as used here is even more specific than the structure--it is the actual method to be used in the gathering and analysis of the data.

The research design has two basic purposes: (1) to provide answers to research questions and (2) to control variance. In other words, it is through the design of a study that research is made effective. Kerlinger further states the following in regard to research design:

. . .How does design accomplish this? Research designs set up the framework for 'adequate' tests of the relations among variables. The design tells us, in a sense, what observations to make, how to make them, and how to analyze the quantitative representations of the observations. Strictly speaking, design does not 'tell' us precisely what to do, but rather suggests the directions of observation-making and analysis. An adequate design 'suggests,' for example, how many observations should be made, and which variables are active variables and which are assigned. We can then act to manipulate the

active variables and to dichotomize or trichotomize or otherwise categorize the assigned variables. A design tells us what type of statistical analysis to use. Finally, an adequate design outlines possible conclusions to be drawn from the statistical analysis.¹

The design chosen for this study was a pretest-posttest, two-group, "true experimental" design. Figure 1 shows the schemata of the research design.

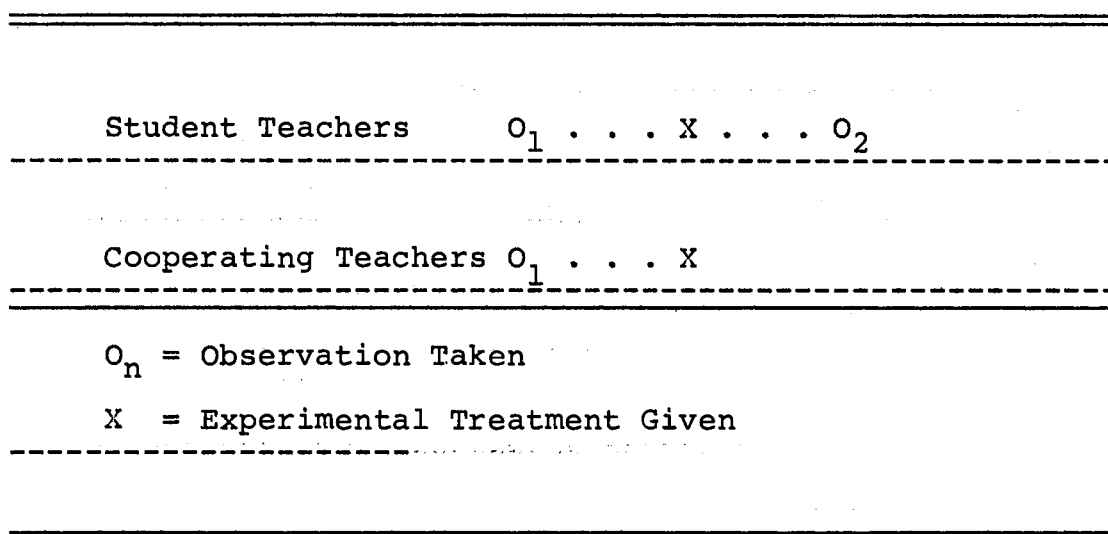


Figure 1. Schemata of Research Design

The design shown in Figure 1 was chosen because of its ability to control factors which could cause the results of the study to be uninterpretable or "dirty." Campbell and

¹Kerlinger, p. 276.

Stanley refer to this design as ". . .one of the true experimental designs to be used in research."²

Step II: Choice of Data Collection Instrument

The instrument used in this investigation was the Pupil Control Ideology Form (PCI Form) devised by Willower, Eidell, and Hoy.³ This is an operational measure of pupil control ideology which consists of 20 items. (See Appendix A) An individual response to each item is made on a Likert-type scale with five categories. These categories are as follows: (1) Strongly Agree, (2) Agree, (3) Undecided, (4) Disagree, (5) Strongly Disagree. The categories of 1-5 are given the value of 1-5 for scoring. Items five (5) and thirteen (13) are reversed for scoring as an attempt to prevent response patterns. The range of possible test scores is from 20 to 100 with the higher scores being the more custodial subjects and the lower scores being the more humanistic subjects.

Willower, Eidell, and Hoy began construction of the instrument by writing fifty-seven statements concerning the different methods of pupil control utilized in the classroom setting. They administered this original form of 57 statements to 58 subjects over a time span of several

²D. T. Campbell and J. C. Stanley, Experimental and Quasi-Experimental Designs for Research (Chicago: Rand-McNally & Co., 1966), p. 9.

³Willower, Eidell, and Hoy, pp. 10-14.

weeks. The subjects included several graduate students in education and the rest were public school teachers. During this time, statements were modified and some were eliminated because of statements of the subjects and an item analysis of the responses. The instrument then contained 38 statements.

Seven schools located in New York and Pennsylvania were selected for administering the instrument (now composed of 32 items). A total of 170 subjects were used from these seven urban, rural, and suburban schools. Willower, et. al. conducted another item analysis of the test items and retained the 20 that now comprise the instrument.

The reliability of the PCI Form was computed to be .91 for a Pearson Product-Moment correlation and .95 for the Spearman-Brown formula for test reliability. From these indices the authors concluded that "...by the standards usually applied, the instrument appeared to us to be relatively reliable and valid."⁴ (See Appendix B)

The validity of the PCI Form was computed by comparing the 25 teachers who were considered to be the most "custodial" in their PCI approach to the 25 teachers who were considered to be the most "humanistic" in their viewpoint of PCI. This comparison was found to be significantly different at the .01 level of significance. (See Appendix C)

⁴Ibid., p. 47.

Step III: Choice of Proper Statistical Tests

This step of the pre-experimental procedures involved the selection of the proper statistical tests for processing the data and testing the six hypotheses. (See Appendix D)

Hypotheses one and two were tested using a t-test for two independent samples. Hypothesis three was tested using a t-test for correlated samples. A good explanation of these statistical tests can be found in Ferguson's book.⁵ Hypothesis four was tested using a Chi Square (χ^2). The particular use being made of the statistic here is to test the degree of independence or relatedness of two variables. Downie and Heath discuss this statistic in the sixth chapter of their book referred to earlier in Chapter II. Hypothesis five was tested using a t-test for testing the difference between two dependent correlations.⁶ The correlations are dependent because the two correlations were derived from three measures. Obviously, the two resulting correlations have one measure in common.

⁵George Ferguson, Statistical Analysis in Psychology and Education, (New York: McGraw-Hill, 1959), pp. 136-137.

⁶James L. Bruning and B. L. Kintz, Computational Handbook of Statistics, (Glenview, Ill.: Scott-Foresman and Co., 1968), pp. 193-194.

Step IV: Selection of Population and Sample

The subjects of this study were prospective teachers from the teacher training program of Oklahoma State University and public school teachers to whom the prospective teachers had been assigned for practice teaching.

For the student teacher sample the investigator used the entire population of 53 secondary, language-arts student teachers enrolled in the secondary education program at Oklahoma State University, Stillwater, Oklahoma, during the Spring semester of the 1968-69 academic school year.

The cooperating teachers were simply those teachers to whom the student teachers had been assigned for their student teaching experience. While this method of selection involves a certain amount of bias, the sample size was large enough to eliminate any serious problems.

The total number of subjects used in the study was 102--51 student teacher subjects and 51 cooperating teacher subjects. While the investigation started with 53 subjects in each group, one cooperating teacher refused to complete the PCI Form and one student teacher was absent on the day the test was administered. For this reason, the corresponding student teacher of the first subject and the cooperating teacher of the second subject had to be dropped from the study and the total number of subjects was reduced from 106 to 102.

Step V: Securing the Assistance of the Participating Subjects and Institutions.

Prior to the administration of the PCI Form for the first time, the researcher made the following contacts:

1. The student teacher participants
2. The cooperating teacher participants
3. The cooperating educational institutions

The student teacher participants were contacted and asked to attend a meeting of their faculty advisor and the rest of the student teachers. At this meeting the researcher explained the study, and asked for their full cooperation during the study.

Since the investigator was employed as an observer of the student teachers, it was a relatively simple matter for her to solicit the assistance of the cooperating teachers. However, because of the large number of contacts to be made, she was assisted by two other professionals from the university in conducting the personal interviews.

The researcher also contacted the cooperating educational institutions. During these meetings, the essence of the study was explained and the cooperation of the institution was sought. Nearly all of these schools were more than helpful to the investigation and it would have been impossible without their full cooperation.

Experimental Procedures

Administration of the Pre-test to Student Teachers

During the last week of the student-teacher subjects' on-campus work, in the spring semester of 1969, the pre-test PCI Form was administered to all student-teacher participants. The pre-test was administered to the subjects as a group, using approximately the first twenty minutes of a regular morning class period.

At the beginning of the eight-week period of student teaching, the PCI Form was administered to the cooperating-teacher adviser of each of the student-teacher subjects. In addition to the PCI Form, each cooperating-teacher subject was requested to complete an information sheet which contained the following items: (1) Sex; (2) Marital Status; (3) Age; (4) Present Position; (5) Years of Experience as an Educator; (6) Amount of Education; (7) Undergraduate Preparation; (8) Graduate Preparation. (This instrument is contained in Appendix E.) (Note: One subject refused to complete the PCI Form and information sheet, causing the investigator to have to drop her correlate, student-teacher subject in order to insure equal sample sizes. Also, one student-teacher subject was absent when the PCI Form pre-test was given and eliminated herself and her cooperating-teacher subject from the study.)

Administration of the Post-test to Student Teachers

At the time the pre-test was administered, the investigator had advised all student teachers that another measure would be taken at the end of the student-teaching assignment. The post-test PCI Form was administered to all student-teacher subjects on the day following their eight-week, student-teaching assignment. The cooperating-teacher subjects were administered the PCI Form only once and no post-test measure was taken on this group.

After distributing the PCI Forms the investigator said, "I would appreciate your response to this questionnaire." As in the case of the pre-test, the subjects were told that the task had no time limit, but their first impression was very important to the investigator. Information and instructions, identical to that used with the pre-test administration, (See Appendix A) were read aloud to the subjects and they were asked to begin. After the participants had all completed the instruments, the responses were collected and checked for completeness and usability.

Scoring the Results

The PCI Forms were scored and tabulated for each of the groups. The method of scoring the subjects' responses was as follows: (1) Scan the answers to insure that the subject had made only one response per item; (2) Determine the choice point chosen by the subject; (3) Give numerical

values to the choice points of each item. (The numerical values for each of the choice points are given in Figure 2.)

Analysis of the Data

Item Number	Choice Point	Weight
1-4	Strongly Agree	(5)
6-12	Agree	(4)
14-20	Undecided	(3)
	Disagree	(2)
	Strongly Disagree	(1)

5*	Strongly Agree	(1)
	Agree	(2)
13	Undecided	(3)
	Disagree	(4)
	Strongly Disagree	(5)

*Items 5 and 13 are positively oriented toward the "humanistic" PCI ideology.

Figure 2. Weights for Test-Item Choice Points

The item scores were then added for each of the subjects in order to obtain a single test score. This score was indicated as the Pupil Control Ideology Form score for each subject. The raw scores of the student-teacher subjects were paired with the raw scores of the cooperating-teacher subject whom they were assigned to during their

student-teaching experience.

The PCI Form data and the biographical data were punched on IBM cards as a means of expediting the processing of the data. The card format used for entering the data is given in Appendix F.

The raw scores and the descriptive statistics such as the mean, variance, and standard deviation of each of the samples are given in Appendices G, H, and I.

The statistical tests proposed for each of the hypotheses were performed on the data. Figure 3 presents the hypotheses, the statistical test performed, and the scores involved in the calculation.

Hypothesis Number	Statistical Test	Scores Involved in the Test
H ₁	= t-test (Ind.)	Pre-test scores of G ₁ and scores of G ₂
H ₂	= t-test (Ind.)	Post-test scores of G ₁ and scores of G ₂
H ₃	= t-test (Corre.)	Pre-test and Post-test scores of G ₁
H ₄	= Chi Square X ²	Frequency count of student teachers
H ₅	= t-test (Dep.)	Between "r" of pre-test and CT* and post-test and CT
H ₆	= Pearson's "r"	Pre-test and Post-test scores of G ₁

*CT = Cooperating Teacher's PCI Form Score.

Figure 3. Statistical Tests Performed in Testing Hypotheses

All hypotheses were tested at the .05 level of significance. However, if the researcher obtained a more stringent level of significance in the computations, it was reported in the results. For instance, if the researcher computed a statistic that was significant at the .001 level of significance, this figure was reported in the results rather than the .05 level set for the original testing of the hypothesis.⁷

⁷Kerlinger, p. 314.

CHAPTER III

RESULTS

Fifty-one prospective teachers from the student-teacher program of Oklahoma State University at Stillwater, Oklahoma, and 51 cooperating teachers from the Public School Systems of Oklahoma were given the Pupil Control Ideology Form (PCI Form) during the prospective teachers' student teaching assignment in the 1968-69 Spring Semester. The student teachers had been assigned to a cooperating teacher on a one-to-one basis. A pre-test/post-test measure was recorded for student teachers. The cooperating teachers were administered the PCI Form and a biographical instrument at the beginning of the student teaching experience, but no post-test measure was taken.

The main purpose of the investigation was to determine the nature of the changes occurring in the PCI Form scores of student teacher subjects from the beginning of the student teaching experience to its culmination eight weeks later.

The investigator had stated six (6) hypotheses concerning the results of the study. Several t-tests and correlations were needed to test these hypotheses. The

results of these statistical tests and their ensuing implications are given in this chapter of the study.

Major Findings

The investigator had hypothesized that the PCI Form scores of student teachers would become more "custodial" as the student teaching experience approached its conclusion. Several specific hypotheses were tested from this general hypothesis.

Results of Testing Hypothesis One (H_1)

Hypothesis one was stated as follows:

There will be no significant difference in the PCI pre-test scores of student-teacher subjects and scores of cooperating-teacher subjects.

The results of testing this hypothesis are given in Table I.

TABLE I

A COMPARISON OF THE PUPIL CONTROL IDEOLOGY OF
STUDENT TEACHERS AND COOPERATING TEACHERS
(PRE-TEST)

Subject	N	PCI Form Mean Score	PCI Form Standard Deviation
Student Teachers	51	47.549	4.99
Cooperating Teachers	51	52.902	7.48

$t = 4.2110, df = 100, P < .001.$

The results given in Table I show that the null hypothesis of proposition number one was rejected and the investigator concluded that there was a significant difference in the means.

Results of Testing Hypothesis Two (H₂)

Hypothesis two was stated as follows:

There will be a significant difference between the PCI Form post-test scores of student-teacher subjects and scores of cooperating-teacher subjects.

The results of testing hypothesis two are given in Table II.

TABLE II

A COMPARISON OF THE PUPIL CONTROL IDEOLOGY OF
STUDENT TEACHERS AND COOPERATING TEACHERS
(POST-TEST SCORES)

Subject	N	PCI Form Mean Score	PCI Form Standard Deviation
Student Teachers	51	53.118	7.58
Cooperating Teachers	51	52.902	7.48

$$t = 0.1430, df = 50, P > .05.$$

The results given in Table II show that the PCI Form scores recorded for the student teachers were not significantly different from the PCI Form scores recorded for the

cooperating teachers. The PCI index of the student teachers increased from a mean score of 47.549 to a mean score of 53.118 during the eight-week, student teaching experience. Of particular interest is the fact that the PCI Form scores of the student teachers at the end of the student teaching experience had surpassed the PCI Form scores of the cooperating teachers. This will be pursued at a later point in the study.

Results of Testing Hypothesis Three (H₃)

Hypothesis three was stated as follows:

There will be no significant difference between the pre-test and post-test PCI Form scores of the student-teacher subjects.

The results of testing hypothesis three are given in Table III.

TABLE III

A COMPARISON OF THE PUPIL CONTROL IDEOLOGY OF STUDENT TEACHERS: PRE-TEST AND POST-TEST SCORES

Measure	N	PCI Form Mean Score	PCI Form Standard Deviation
Pre-test	51	47.549	4.99
Post-test	51	53.118	7.58

$t = 4.38, df = 50, P < .01.$

The results given in Table III indicate that a significant change does occur in the student teacher's PCI Form scores during the student teaching experience.

While these findings are not dramatic or even conclusive, it was necessary for the researcher to establish the fact that such a change in the scores did occur during the student teaching experience.

Results of Testing Hypothesis Four (H4)

Hypothesis four was stated as follows:

There will be a significant relationship between the PCI Form scores of the cooperating teachers and the PCI Form score changes of the student teachers.

This hypothesis was tested with a Chi Square (X^2) test for testing the independence of two variables. The data used in the contingency table and the results are given in Table IV.

TABLE IV
 RELATIONSHIP OF CHANGES IN STUDENT TEACHERS'
 PCI FORM SCORES TO COOPERATING
 TEACHERS' PCI FORM SCORES

		Change Scores of Student Teachers' PCI		
		Increase	Decrease	No Change
S c o o r C o o T e a c h e r s'	Higher Than Student Teacher's	n = 30	n = 3	n = 4
	Lower Than Student Teacher's	n = 11	n = 2	n = 1

$\chi^2 = 0.55; df = 2; P > .05.$

The results of the χ^2 test of independence of the two variables of the cooperating teacher's scores and the change scores of the student teachers show that they are independent. Therefore the investigator was able to reject null hypothesis number four and conclude that the movements of the PCI Form scores of the student teachers are independent of the cooperating teacher's PCI Form scores.

Results of Testing Hypothesis Five (H₅)

As an attempt to further establish the independence of the student teacher's PCI Form scores and the cooperative teacher's scores, the investigator tested two other hypotheses. Hypothesis number five (H₅) was an attempt to determine the amount of influence the cooperating teachers had been able to exert on the student teacher's PCI. An easy explanation for this principle of relatedness is that if the cooperating teacher was able to influence the student teacher in forming her ideas of pupil control, their pupil control index scores should be closely related, or correlated. However, since the scores may have been correlated at the beginning of the student teaching experience, it was necessary to compute the difference between such a correlation at the beginning and end of the eight-week assignment. Table V shows the differences in the correlations at the beginning and end of the student teaching experience. Table V also shows the results of testing hypothesis five which was stated as follows:

The correlation of the student teacher's PCI Form scores (pre-test) and the cooperating teacher's PCI Form scores will be significantly less than the student teacher's PCI Form scores (post-test) and the cooperating teacher's PCI Form scores.

TABLE V
A COMPARISON OF CORRELATIONS OF SCORES BEFORE
AND AFTER THE STUDENT TEACHING EXPERIENCE

Correlation	N	Pearson's "r"
Student Teacher's Pre-test Score x Cooperating Teacher's PCI Form Score	51	.0161

Student Teacher's Post-test Score x Cooperating Teacher's PCI Form Score	51	.0165

$$t = .02; df = 48; P > .05.$$

The results of testing hypothesis five (H_5) show that the amount of relatedness or correlation between the scores of the two groups did not increase significantly during the student teaching experience. Therefore, the investigator rejected the null hypothesis of proposition number five and concluded that the pupil control ideology of the two groups of subjects did not become more similar or related during the student teaching experience. This result, in turn, supported the results shown in Table IV concerning hypothesis number four.

Results of Testing Hypothesis Six (H_6)

Hypothesis six stated that:

There will be no significant relationship between the pre-test and post-test PCI Form scores of the student teachers.

This proposition was an attempt to establish the magnitude and direction of the relationship of the two measures taken on the student teachers. The results are shown in Table VI.

TABLE VI

A CORRELATION OF THE PUPIL CONTROL IDEOLOGY OF STUDENT TEACHERS: PRE-TEST AND POST-TEST

Group	Sum of Raw Scores	Sum of Raw Scores Squared	Sum of O_1 times O_2
Student Teachers Pre-test (O_1)	2,698	145,480	129,875
Student Teachers Post-test (O_2)	2,709	146,827	

$$r = .5521; df = 50; P < .001$$

The results of testing hypothesis six (H_6) show that the amount of relationship between the pre-test and post-test measures taken on the student teachers was significant beyond the .001 level.

Analysis of Biographical Data on Cooperating Teachers

The biographical data which the researcher had collected on each of the cooperating-teacher subjects were used as an attempt to locate other variables which may be correlated with PCI Form scores. If such a correlation is found, these variables would need to be controlled in future studies since uncontrolled variables can confound an entire experimental study.¹

The following variables were measured on the biographical data sheet:

1. Age
2. Marital Status
3. Teaching Experience (In years)
4. Sex
5. Present Position
6. Amount of Education
7. Undergraduate Preparation
8. Graduate Preparation (If any)

The researcher used several ways of comparing and contrasting the different groups; (1) t-tests for independent samples such as two groups of teachers;² (2) one-way Analysis of Variance for unequal groups as with categories;³ and (3) graphic display of variables.⁴

¹Kerlinger, p. 308.

²N. M. Downie and R. W. Heath, Basic Statistical Methods, (2nd ed.) (New York: Harper and Row, 1965), pp. 132-133.

³Ibid., pp. 176-184.

⁴Ibid., p. 212.

PCI Form scores and sex are shown in Table VII. The male teachers showed a mean score of 56.70 while the female teachers showed a mean score of only 51.32.

TABLE VII
PUPIL CONTROL IDEOLOGY AND SEX

Sex	N	PCI Form Scores		
		Mean	Variance	Standard Deviation
Male	10	56.70	54.81	7.40
Female	41	51.32	81.38	9.02

$$t = 1.97; df = 49; P > .05.$$

The t-test between the mean scores of the two sex groups was 1.97. However, this was not significant at the .05 level and the investigator concluded that no significant difference existed between them.

PCI Form scores and marital status are compared for the four (4) different categories in Table VIII. The mean score for the widowed was highest at 58.67, the single teachers' mean scores were next highest at 57.00, and the married subjects' scores were lowest of all at 50.95. (The category of divorcees was not considered since there was

only one score in the category and, therefore, not a mean score but simply a raw score.)

TABLE VIII
PUPIL CONTROL IDEOLOGY AND MARITAL STATUS

Marital Status	N	PCI Form Scores		
		Mean	Variance	Standard Deviation
Single	7	57.00	40.57	6.37
Married	40	50.95	73.35	8.56
Widow(er)	3	58.67	70.33	8.39
Separated or Divorced	1	(raw score) 58.00	--	--

The results of testing the mean differences of the groups shown in Table VIII are given in Table IX. The proper statistical test, and its accompanying assumptions, was used in making the test.

TABLE IX
ANALYSIS OF VARIANCE ON THREE MARITAL-STATUS GROUPS

Source of Variation	Sum of Squares	Degrees of Freedom	Mean Square	"F" Value	P
Between (SS_b)	695	2	347.5	4.87	<.05
Within (SS_w)	3,429	48	71.4		
TOTAL (SS_t)	4,124	50			

Since multiple t-test is not a legitimate statistic for making the many comparisons of means possible with the three group means,⁵ the researcher performed an Analysis of Variance (ANOVA) for unequal group sizes to determine the amount of mean difference.⁶ Table IX shows the results of the ANOVA performed. It shows that a significant difference has occurred among the means of the three different groups. Both the single and widowed groups had much higher mean scores than the married group.

⁵William Hays, Statistics, (New York: Holt, Rinehart, and Winston, 1963), pp. 110-125.

⁶B. J. Winer, Statistical Principles in Experimental Design, (New York: McGraw-Hill, 1962), pp. 154-188.

PCI Form scores and age of the cooperating teachers are shown in Table X. Even though the categories seemed a little large, the investigator used 10-year intervals in collecting the data. As in the case of the marital status of subjects, one of the categories had only one subject and could not be considered a mean score. For this reason, only four of the categories were considered. The highest means occurred in the middle ages with 53.11 for the 30-39 age group and 53.88 for the 40-49 age group. The age group of 20-29 recorded a score of only 51.00 and the age group of 50-59 mean score was 51.90.

TABLE X
PUPIL CONTROL IDEOLOGY AND AGE OF COOPERATING TEACHERS

Age (in 10-year intervals)	N	PCI Form Scores		
		Mean	Variance	Standard Deviation
20-29 years	14	51.00	103.29	10.62
30-39	9	53.11	91.44	9.56
40-49	17	53.88	39.51	6.29
50-59	10	51.90	73.70	8.59
60-69	1	44.00 (raw score)	N.A.	N.A.

The results of Table X are shown graphically in Figure 4. The line drawn is simply a connection of the mean values for each group and is not intended to show a progression.

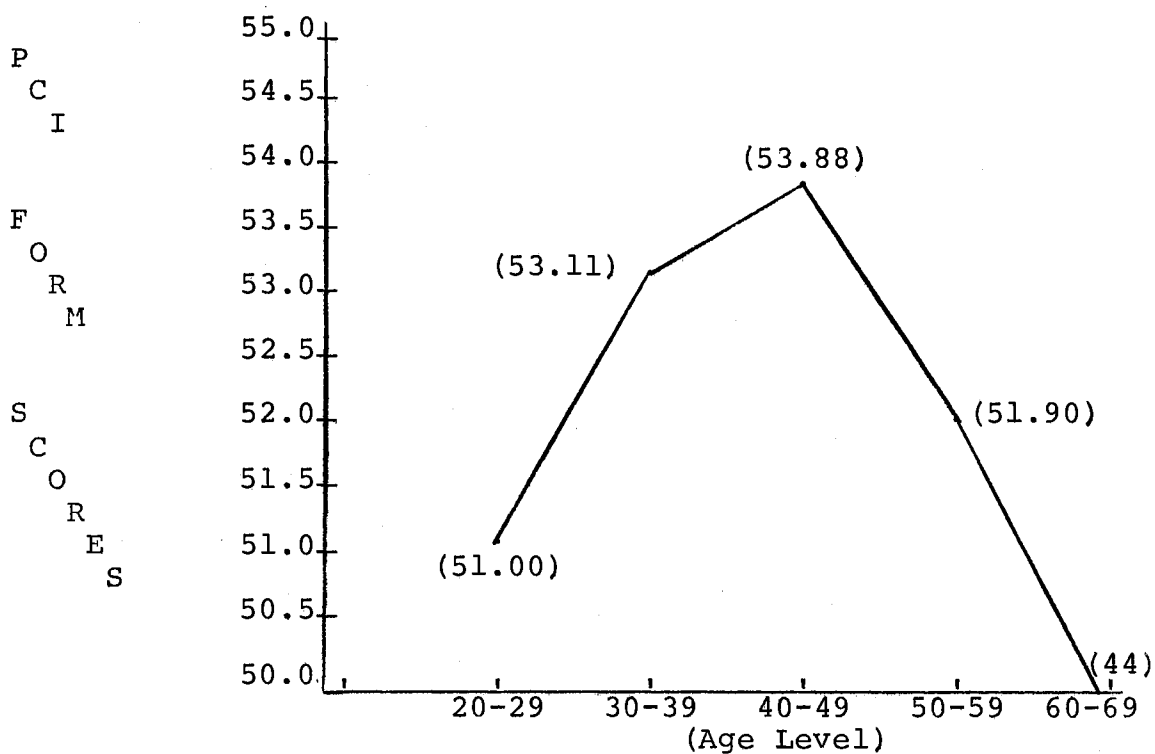


Figure 4. Graph of PCI Form Scores by Age Level

In testing the difference among the means, the researcher again used a one-way ANOVA. The means of the first four groups were considered, the fifth category was eliminated because there was only one observation in the category and it could not theoretically be called a mean

score. Table XI shows the results of the analysis of variance performed on the PCI Form scores of the different groups. The F value of 1.61 with 3, 46 df was not significant. The investigator concluded that there was no significant difference among the means of the four groups tested.

TABLE XI
ANALYSIS OF VARIANCE ON PCI SCORES FOR FOUR AGE GROUPS

Source of Variation	Sum of Squares	Degrees of Freedom	Mean Square	"F" Value	P
Between (SS_b)	385	3	128.0	1.61	$>.05$
Within (SS_w)	3,668	46	79.7		
TOTAL (SS_t)	4,053	49			

PCI Form scores and experience of teachers are presented in Table XII.

TABLE XII
PUPIL CONTROL IDEOLOGY AND EXPERIENCE
OF COOPERATING TEACHERS

Teaching Experience	N	PCI Form Scores		
		Mean	Variance	Standard Deviation
1-2 years	8	49.00	162.75	12.75
3-4	8	54.63	12.75	3.57
5-6	2	49.00	16.00	4.00
7-8	8	49.75	53.00	7.28
9-10	8	53.00	61.00	7.81
11-20	8	56.50	66.25	8.14
20-Up	9	52.22	66.00	8.12

The mean scores for the seven (7) categories ranged from 49.00 for teachers with 1-2 years experience to 56.50 for teachers with 11-20 years experience. The researcher chose the unequal categories as an attempt to keep the numbers of respondents within each category as nearly equal as possible, since this will decrease the possibility of the violation of assumptions underlying the Analysis of Variance statistic⁷ being used in the study. The

⁷Hays, p. 361.

investigator performed an analysis of variance of the mean scores of the groups. The results of the analysis of variance are given in Table XIII.

TABLE XIII
ANALYSIS OF VARIANCE ON PCI SCORES FOR
CATEGORIES OF EXPERIENCE

Source of Variation	Sum of Squares	Degrees of Freedom	Mean Square	"F" Value	P
Between (SS_b)	348	6	58.00	1.72	>.05
Within (SS_w)	1,482	44	33.68		
TOTAL (SS_t)	1,830	50			

The results of the analysis of variance on the categories of experience show that the means of the different groups did not differ significantly. For the purpose of this study they were statistically equal.

The investigator graphed the means of the experience groups as an attempt to show the bi-modal tendency of the PCI Form scores. This graph is shown in Figure 5.

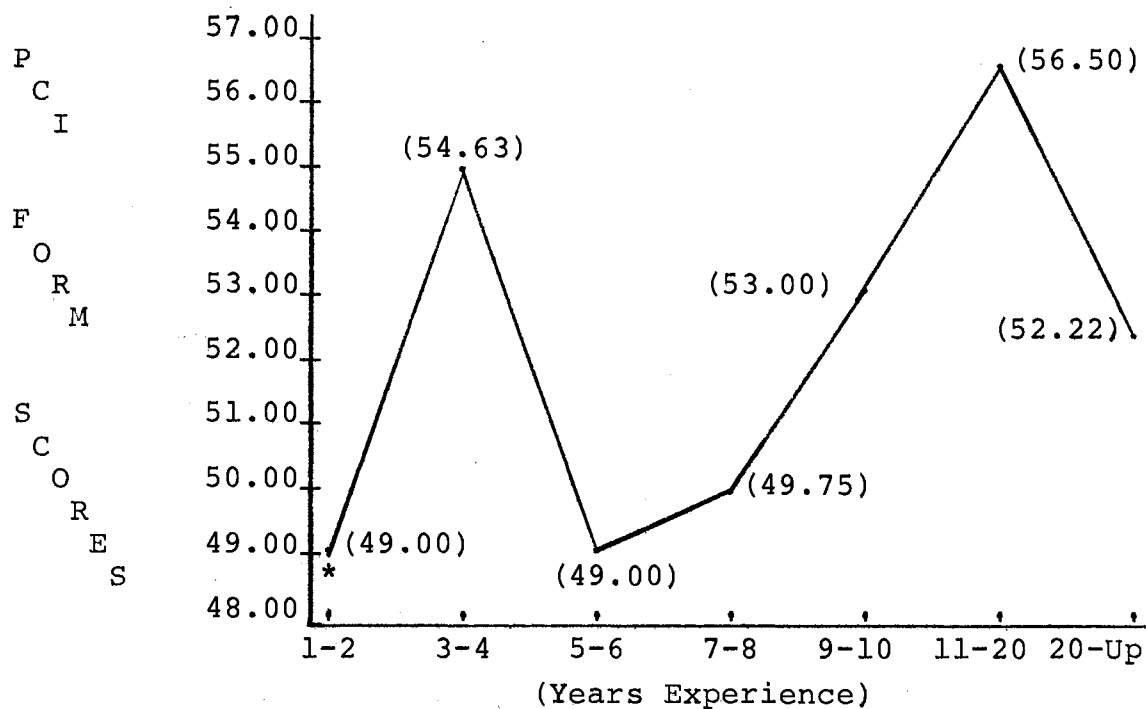


Figure 5. Graph of PCI Form Scores by Experience Level

*The line drawn is simply a connection of the mean values for each group and is not intended to show a progression.

It can be seen from the graph of Figure 5 that the PCI Form scores of the cooperating teachers rose sharply from the 1-2 year level to the 3-4 year level and again from the 7-8 year level to the 9-10 and 11-20 year level. These two rises should be interpreted cautiously since there are many factors operating that cannot be anticipated in a study of this nature. The investigator's purpose here was simply to show the nature of the PCI of the teachers as their experience increased.

PCI Form scores and amount of education of cooperating teachers are presented in Table XIV. The PCI Form mean scores ranged from 49.78 for teachers having only a bachelor's degree as teacher preparation to 57.75 for teachers having a master's degree only. There were two subjects who had less than a B.A. degree who showed a very high mean score on the PCI Form (57.50). However, the mean score decreased to 49.78 for subjects with a B.A. and increased again to 50.67 for subjects who had more than a B.A. but less than a master's degree. Among those who had a master's degree only, the mean scores reached their highest peak of 57.75 and declined again to 52.50 for subjects having more than a master's degree but less than a doctorate. The doctoral subjects showed a relatively low mean score of 52.00. There is no discernible pattern of change in PCI scores from the bachelor's to the doctor's degree.

TABLE XIV
 PUPIL CONTROL IDEOLOGY AND AMOUNT OF
 EDUCATION OF COOPERATING TEACHERS

Amount of Education	N	PCI Form Scores		
		Mean	Variance	Standard Deviation
B.A.	2	57.50	2.25	1.50
B.A.	9	49.78	26.22	5.12
B.A.	18	50.67	9.33	3.05
M.Ed.	8	57.75	20.38	4.51
M.Ed.	12	52.50	70.25	8.38
Ph.D.	2	52.00	9.00	3.00

A graph of the PCI Form mean scores for the different levels of educational preparation is presented in Figure 6.

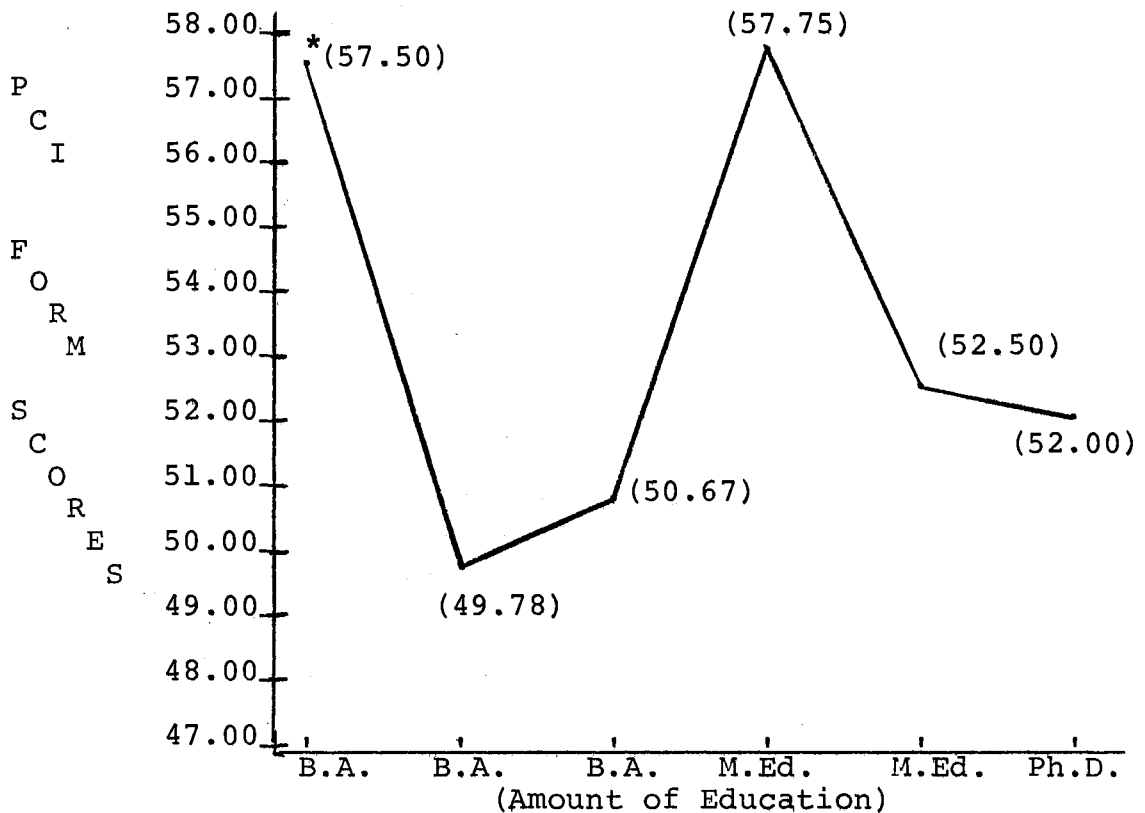


Figure 6. Graph of PCI Form Scores and the Amount of Education

*The line drawn is simply a connection of the mean values for each group and is not intended to show a progression.

As in the case of the amount of experience, a bi-modal effect can be seen in the graph. Those subjects who have only a bachelor's degree have the lowest PCI Form scores (49.78), while those subjects having a master's degree had the highest PCI Form scores of all (57.75).

The researcher performed a 1-way ANOVA on the six groups of subjects. The results are shown in Table XV.

TABLE XV
ANALYSIS OF VARIANCE ON PCI SCORES FOR THE
CATEGORIES OF EDUCATION

Source of Variation	Sum of Squares	Degrees of Freedom	Mean Square	"F" Value	P
Between (SS_b)	398	5	79.60	2.50	<.05
Within (SS_w)	1,432	45	31.82		
TOTAL (SS_t)	1,830	50			

The results of the Analysis of Variance on the categories of the amount of education show that there was a significant difference among the means of the groups. These results indicate that the amount of education is a variable which would have to be controlled in future studies.

PCI Form scores and undergraduate training data are presented in Table XVI. There were 29 of the cooperating teachers who had their undergraduate work in the area of education. Their mean score on the PCI Form was 53.45. The other 22 subjects who were not in the area of education had a mean score on the PCI Form of 50.95.

TABLE XVI
PCI FORM SCORES AND UNDERGRADUATE DEGREE

Undergraduate Major	N	PCI Form Scores		
		Mean	Variance	Standard Deviation
In Education	29	53.45	62.41	7.90
Not in Education	22	50.95	13.07	3.62

$$t = 1.37; df = 49, P > .05.$$

The results of the t-test on the two groups of subjects showed no significant differences between the PCI Form scores of those who had undergraduate degrees in Education and those who had undergraduate degrees not in Education ($t=1.37$; $df=49$, $p > .05$).

PCI Form scores and graduate training data are presented in Table XVII. There were 11 of the cooperating teachers who had done graduate work in the area of Education. Their mean score was 51.18. The 24 cooperating teachers who had done graduate work in an area other than Education showed an average PCI Form score of 52.67. Sixteen of the cooperating teachers showed no graduate hours and a mean PCI Form score of 52.75.

TABLE XVII
PCI FORM SCORES AND GRADUATE DEGREE

Graduate Major	N	PCI Form Scores		
		Mean	Variance	Standard Deviation
In Education	11	51.18	58.73	7.66
Not in Education	24	52.67	8.46	2.91
None	16	52.75	60.06	7.75

$$F = 0.27, df = 48.2, P > .05.$$

The one-way Analysis of Variance test among the means of three graduate study groups fail to show any significant differences ($F=0.27$, $df=48.2$, $P > .05$). The mean values were actually very homogenous: $\bar{X} = 51.18$ (graduate study in Education), $\bar{X} = 52.67$ (graduate study not in Education), and $\bar{X} = 52.75$ (no graduate work). However, the variances were very dissimilar, and any significant differences would have been uninterpretable.

Summary of Testing Hypotheses

In Chapter III the researcher has presented the empirical findings from the PCI Form scores of the 51 student-teacher subjects and the PCI Form scores and biographical data of the 51 cooperating-teacher subjects.

The researcher had generated six (6) hypotheses to be tested. All Six of the null hypotheses were rejected and the researcher reached the following conclusions:

1. There is a significant difference between the PCI Form scores of the cooperating teachers and the pre-test PCI Form scores of student teachers.
2. There is no significant difference between the PCI Form scores of the cooperating teachers and the post-test PCI Form scores of student teachers.
3. There is a significant difference between the pre- and post-test PCI Form scores of student teachers.
4. There is no significant relationship among the PCI Form score changes and the cooperating teachers' PCI Form scores.
5. There is no significant difference between the pre-test-x-cooperating-teacher correlation and the post-test-x-cooperating-teacher correlation.
6. There is a significant relationship between the pre-test PCI Form scores and the post-test PCI Form scores for student teachers.
7. The student teacher subjects started the student teaching experience with PCI Form scores much lower than the cooperating teacher subjects. However, after the eight-week student teaching

experience, the student teachers' PCI Form scores had surpassed the cooperating teachers' scores.

Summary of Biographical Data

In connection with the biographical data collected on the 51 cooperating teachers, the following observations were made:

1. Male subjects had a more custodial view of pupil control techniques than did the females, but the differences were not significant.
2. A significant difference occurred among the means of the three different marital-status groups. The married subjects' mean score was the lowest.
3. The PCI Form scores for the different age groups were not significantly different.
4. While the PCI Form scores of the different experience levels showed a wide variation, the analysis of variance of the scores showed no significant differences among the means of the groups.
5. Subjects from the different academic levels showed significant differences among their means. Those subjects with a bachelor's degree only had lower scores than those subjects who had less than a bachelor's degree and those subjects who had attained the master's degree level in education

but less than a doctorate.

6. Subjects who majored in non-education fields in undergraduate study were generally less custodial in their PCI than subjects who had majored in Education programs in undergraduate study, but these differences were not significant.
7. There was no significant difference among the PCI Form scores of teachers majoring in Education and non-Education graduate programs.

The biographical data findings concerning the custodial and humanistic approach to pupil control can be summarized by the two models shown in Figure 7.

Biographical Traits	Custodial Model	Humanistic Model
Age	40-49 years	20-29 years
Marital Status	Single	Married
Experience	11-20 years	1-2 years
Sex	Male	Female
Education	= M.Ed.	= B.A.
a. Undergraduate	Education	Not in Education
b. Graduate	Not in Education	In Education

Figure 7. Characteristics of Custodial and Humanistic Models

The custodial model corresponds exactly to the one cited by Willower, Eidell, and Hoy.⁸ However, the humanistic model could not be compared since Hoy, et al. found principals to be the most humanistic and the researcher in the present study did not use principals as subjects.

⁸Willower, et al., p. 35.

CHAPTER IV

CONCLUSIONS AND IMPLICATIONS

Overview of the Study

In this study, the investigator compared the pupil control ideology (PCI) scores of 51 student teachers and the 51 cooperating teachers to whom the student teachers had been assigned. Pre-test and post-test measures were taken on the student teachers while only one PCI measure and certain biographical data were collected on the cooperating teachers.

The main purpose of the study was to determine the nature and duration of the rise in the PCI Form scores of student teachers during the student teaching experience (eight weeks in duration). The investigator attempted to determine the answers to these and other questions by comparing the PCI Form scores of the two groups of subjects and relating the results to previous studies using PCI Form scores of Ss.

The investigator had hypothesized that the PCI Form scores of the student teachers would rise sharply during the student teaching experience, even to a point beyond the PCI Form score of the cooperating teacher. However,

it was proposed that the high PCI index was only a situational phenomena brought on by the trauma of the student teaching experience. As a result, during the first year of teaching the PCI Form score would decline until those teachers who have only 1-2 years of teaching experience would have the lowest PCI Form scores of all the experience categories.

The t-tests were computed between the pre- and post-test measures of the student teachers and a significant rise was observed in the PCI Form scores of the student teachers. A t-test between the pre-test scores of the student teachers and the cooperating teacher's PCI Form scores showed a significant difference but the same test between the post-test of the student teachers and the cooperating teacher's PCI Form scores failed to show any significant difference. The investigator concluded from these results that the PCI Form scores of the student teachers did make a significant rise during the student teaching experience, even to a point beyond the PCI Form scores of the cooperating teachers. These findings supported the predictions of the researcher and allowed him to reject the first three null hypotheses.

The biographical data collected on the cooperating teachers were analyzed as an attempt to determine those variables which are most related to the PCI Form score being measured. The differences among the different age, experience, sex, and field-of-study categories were tested.

As a result of these and other comparisons, a "model" of custodial and humanistic PCI teachers was developed and presented in Figure 7.

Limitations Concerning the Generalizability of Results

The interpretation and generalization of the results of this study should be attempted only if the interpreter is aware of the limitations of the population sample and the instrument used. The subjects used in the study were not randomly selected. The student teacher subjects consisted of 51 of the 53 secondary, language arts student teachers who did their student teaching during the spring semester of 1969 at Oklahoma State University, Stillwater, Oklahoma. Likewise, the cooperating teacher subjects were not selected randomly but were selected either by the principal of the school where the student teachers were assigned or by the chairman of the English department where the student teacher was assigned. While the student teachers were assigned to the different schools in a fairly random fashion, those persons assigning the cooperating teachers to the student teachers must have injected their own biases and prejudices into the selection procedures. Because of the inability of the researcher to randomly select the student teachers, the cooperating teachers, and the school assignments, the results of the study are limited to the 51

subjects of each of the groups. Any generalizations beyond this population should be made with extreme caution.

Another limitation involves the instrument and its administration. It was the experimenter's subjective evaluation that most, if not all, participants saw the instrument as a threat to their position and/or method of teaching.

Conclusions

The results of testing the hypotheses stated in Chapter I and the analyses of the biographical information support the following conclusions:

1. The student teachers of the study experienced a significant shift in their PCI Form scores from the beginning of the student teaching experience to the end.
2. There was a significant difference in the PCI Form scores of the student teachers and the cooperating teachers at the beginning of the student teaching experience, but no such difference existed at the end of the student teaching experience.
3. Teachers with 1-2 years of experience have significantly lower PCI Form scores than teachers with more experience. (Teachers having the highest PCI Form scores were those who had from 11-20 years of experience in the teaching

profession.)

4. Certain factors of biographical data indicate a tendency toward the custodial and humanistic models of PCI. Those factors related to custodial style of PCI are as follows:

- a. Males
- b. Single
- c. 40-49 years old
- d. 11-20 years of teaching experience
- e. Undergraduate degree in Education
- f. Graduate studies not in Education

Those factors related to the humanistic style of PCI are as follows:

- a. Females
- b. Married
- c. 20-29 years old
- d. 1-2 years of teaching experience
- e. Undergraduate degree not in Education
- f. Graduate studies in Education

5. By controlling the factors related to the PCI Form scores, the amount, direction, and degree of the change in PCI Form scores can be influenced.

Implication for Further Research

Willower, Eidell, and Hoy have begun a type of investigation that should be of definite interest to all school systems at all levels of schooling. This is especially true since the present trend in schooling American children is to create an atmosphere which is conducive to creativity or discovery.¹ Behavioral scientists have

supported the idea that such learning can only occur in an atmosphere that the student perceives as "unthreatening" or casual.² This type of atmosphere can, in turn, only be created by a teacher who has the proper philosophy of the motivational factors and control concepts that are commensurate with such an atmosphere.³ The most feasible way to locate those teachers who are capable of creating such an atmosphere is through the testing and screening of job applicants. The Pupil Control Ideology Form could be a valuable instrument in this screening process. However, before it is used as a criterion measure, further research is in order to determine its capabilities and restrictions. The studies which the investigator believes would be of most benefit in adding to the information garnered by each supplementary investigation are given in the next two paragraphs of this report. Each is only an idea but they both could be developed easily.

The first study suggested by the investigator would be a "true" experimental design where the factors affecting the PCI Form score are actually controlled at the time they occur. (The writer is using the word "true" experimental here to mean that the independent variables are actually being manipulated at the time of their occurrence. This type of experimentation is generally considered to be more

²Brayfield, p. 646.

³Festinger, pp. 140-171.

scientific in nature than the ex post facto or observational type.)

The second study suggested by the investigator is a time series analysis. In this study, the investigator would simply take an observation on the student teacher at several intervals in time.

Concluding Remarks

In this study the investigator tested six hypotheses in attempting to determine the amount of influence the student teaching experience has on the Pupil Control Ideology (PCI) scores of prospective teachers.

By recording a pre-test and post-test score for the student teachers, the investigator was able to conclude that a significant rise in the PCI index was noted during the student teaching experience. While there was a highly significant difference between the student teachers' pre-test PCI scores and the cooperating teachers' PCI scores, no such difference in PCI Form scores existed at the end of the student teaching experience. The student teachers' mean PCI scores had risen to a point beyond that of the cooperating teacher. However, the difference in the two means was not significant.

The investigator further concluded that the changes noted in the student teachers' PCI Form scores were independent of the cooperating teachers' PCI Form scores. For instance, if a student teacher was assigned to a

cooperating teacher whose PCI Form score was lower than her own, the student teacher generally showed a tendency to increase her PCI Form score regardless of the cooperating teacher's score. At the same time, three student teachers who had pre-test PCI Form scores higher than the cooperating teacher to whom they were assigned showed a decline in their PCI Form scores. There were actually 32 student teachers who showed a PCI score movement toward the PCI index of the cooperating teacher, 14 who showed movement away from their cooperating teacher's PCI index, and 5 who showed no change in PCI Form score from the pre-test to the post-test.

In an attempt to show that the student teachers' PCI scores and the cooperating teachers' scores were not related (independent), a correlation was computed between the student teachers' pre-test scores and the cooperating teachers' scores; another correlation was computed between the student teachers' post-test PCI Form scores and the cooperating teachers' PCI Form scores. A t-test was used to test the amount of increase in the two correlations. The results were insignificant and the investigator concluded that the scores of the two groups did not become more related as a result of the student teaching experience.

The investigator noted in an earlier section of this study that the instrument seemed to pose a threat to most cooperating teachers and to some student teachers. In

future research it is recommended that some attempt be made to control or account for the subject's level of anxiety since it could prove to be a confounding variable. In light of these observations, the results, by nature, contain a certain amount of subjectivity. Therefore, it should be noted that increased custodialism is inferred from higher PCI Form scores as recorded on the instrument shown in Appendix A.

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APPENDIX A

PUPIL CONTROL IDEOLOGY INSTRUMENT

On the following pages a number of statements about teaching are presented. Our purpose is to gather information regarding the actual attitudes of educators concerning these statements.

You will recognize that the statements are of such a nature that there are no correct or incorrect answers. We are interested only in your frank opinion of them.

Your responses will remain confidential, and no individual or school will be named in the report of this study. Your cooperation is greatly appreciated.

INSTRUCTIONS: Following are twenty statements about schools, teachers, and pupils. Please indicate your personal opinion about each statement by circling the appropriate response at the right of the statement.

SA = Strongly Agree
A = Agree
U = Undecided
D = Disagree
SD = Strongly Disagree

1. It is desirable to require pupils to sit in assigned seats during assemblies. SA A U D SD
2. Pupils are usually not capable of solving their problems through logical reasoning. SA A U D SD
3. Directing sarcastic remarks toward a defiant pupil is a good disciplinary technique. SA A U D SD
4. Beginning teachers are not likely to maintain strict enough control over their pupils. SA A U D SD

5. Teachers should consider revision of their teaching methods if these are criticized by their pupils. SA A U D SD
6. The best principals give unquestioning support to teachers in disciplining pupils. SA A U D SD
7. Pupils should not be permitted to contradict the statements of a teacher in class. SA A U D SD
8. It is justifiable to have pupils learn many facts about a subject even if they have no immediate application. SA A U D SD
9. Too much pupil time is spent on guidance and activities and too little on academic preparation. SA A U D SD
10. Being friendly with pupils often leads them to become too familiar. SA A U D SD
11. It is more important for pupils to learn to obey rules than that they make their own decisions. SA A U D SD
12. Student governments are a good "safety valve" but should not have much influence on school policy. SA A U D SD
13. Pupils can be trusted to work together without supervision. SA A U D SD
14. If a pupil uses obscene or profane language in school, it must be considered a moral offense. SA A U D SD
15. If pupils are allowed to use the lavatory without getting permission, this privilege will be abused. SA A U D SD
16. A few pupils are just young hoodlums and should be treated accordingly. SA A U D SD
17. It is often necessary to remind pupils that their status in school differs from that of teachers. SA A U D SD

- | | | | | | | |
|-----|---|----|---|---|---|----|
| 18. | A pupil who destroys school material or property should be severely punished. | SA | A | U | D | SD |
| 19. | Pupils cannot perceive the difference between democracy and anarchy in the classroom. | SA | A | U | D | SD |
| 20. | Pupils often misbehave in order to make the teacher look bad. | SA | A | U | D | SD |

APPENDIX B

RELIABILITY OF PCI FORM SCORES

The reliability and validity of the Pupil Control Ideology Form was figured on the basis of the final version made up of 20 items. Willower, Jones, and Hoy state:¹

. . .Reliability. A split-half reliability coefficient was calculated by correlating even-item subscores (N=170). The resulting Pearson product-moment coefficient was .91; application of the Spearman-Brown formula yielded a corrected coefficient of .95.

Since these correlations were relatively high, further reliability calculations were made for only two schools, one elementary and one secondary (N=55), when data were gathered from a new sample to test hypotheses. Using the same techniques described above, the Pearson product-moment correlation of the half-test scores produced a coefficient of .83; application of the Spearman-Brown formula yielded a corrected coefficient of .91.

From these data, it was decided that the PCI Form was a relatively reliable measure of educators' pupil control ideology.

¹Willower, Jones, and Hoy, p. 14.

APPENDIX C

VALIDITY TEST FOR PCI FORM

Validity. The primary procedure used in validating the PCI Form was based upon principals' judgements concerning the pupil control ideology of certain of their teachers. Principals were asked to read carefully descriptions of the custodial and humanistic viewpoints and to identify a specified number of teachers whose ideology was most like each description. The number of teachers of each type to be identified in this way was based upon the total number of teachers in the school; approximately 15 percent of the faculty was identified with each description. It was then possible to compare mean scores on the PCI Form for these two groups of teachers.

Principals of the seven schools mentioned earlier (two secondary schools and five elementary schools) made the required judgements. A t-test of the difference of the means of two independent samples was applied to test the prediction that teachers judged to hold a custodial ideology would differ in mean PCI Form scores from teachers judged to have a humanistic ideology. Using a one-tailed test, the calculated t value was 2.639, indicating a difference in the expected direction, significant at the .01 level. . .

As a further check on the validity of the PCI Form, the mean scores of personnel in the two schools known by reputation to be humanistic were compared with the PCI Form scores of personnel in the other schools at the same grade levels in the sample. . . These two groups were shown to be the same in mean scores.

Finally, a cross-validation was carried out using the same techniques described earlier (based on principal's judgements of teacher ideology). Data were drawn from seven schools, five elementary and two secondary. These seven schools were part

of a new sample, yet to be described, used to test the study's major hypotheses. . . Using a one-tailed test, we (Willower, et al.) found that the difference in mean PCI Form scores for teachers judged to be custodial in ideology and teachers judged to be humanistic was significant at the .001 level.¹

¹Ibid., pp. 12-14.

APPENDIX D

INFERENCEAL STATISTICS USED TO TEST THE NULL HYPOTHESES

The statistical method used in testing the six null hypotheses are given in this appendix. The first two hypotheses were tested with a t-test for independent samples.¹ The third hypothesis was tested using a t-test for correlated samples;² and the fourth hypothesis was tested using a Chi Square (χ^2) test for independence of two variables.³

Test Used for Null Hypothesis Number One and Two

Hypothesis One was tested using a t-test for two independent samples. The formula for this test is as follows:

$$t = \frac{\bar{X}_1 - \bar{X}_2}{\sqrt{(S_1^2/N_1) + (S_2^2/N_2)}}$$

¹J. E. Wert, C. O. Neidt, and J. S. Ahmann, Statistical Methods in Educational and Psychological Research, (New York, 1954), p. 418.

²Downie and Heath, pp. 133-138.

³Downie and Heath, pp. 160-175.

Where:

S_j^2 = The variance of group j

N_j = The number of subjects in group j

\bar{X}_j = The mean or average score of group j

The results of this statistical test are distributed as t with $N_1 + N_2 - 2$ degrees of freedom.

Test Used for Null Hypothesis Number Three.

Hypothesis three was tested using a t -test for two correlated samples. The basic difference in this formula and the one used in testing hypotheses one and two is that this formula tests the differences between two measures on the same people--a before and after measure on the PCI Form. The formula for this statistical test is as follows:

$$t = \frac{\text{Mean Difference}}{\text{Standard Error of Mean Difference}}$$

In symbolic form this becomes:

$$t = \frac{\bar{X} - \bar{Y}}{\sqrt{s_{X_1}^2 + s_{X_2}^2 - 2(r)(S_{X_1})(S_{X_2})}}$$

Where:

$S_{\bar{X}_j}^2$ = Variance of the mean of group j

S_{X_j} = Standard error of the mean of group j

r = Correlation of the pre- and post-test measures

\bar{X} = Mean of the pre-test measures

\bar{Y} = Mean of the post-test measures

The results of this statistical test are distributed as t with the number of pairs of scores minus one as the degrees of freedom ($51 - 1 = 50$, in this study.).

Test Used for Null Hypothesis Number Four

Hypothesis four was tested using a Chi Square (X^2) test for testing the independence of two variables. The basic use of this statistic is to determine the differences in groups who possess two mutually exclusive qualities or traits. In this test, as in all X^2 tests, the "Observed" frequencies or numbers in the individual cells of the contingency table, are checked against the "Expected" frequencies calculated from the marginal and grand totals of the observed-frequency contingency table.⁴ The formula for the computed X^2 is as follows:

$$X^2 = \sum [(O - E)^2 / E]$$

Where:

O = Frequencies in the "Observed" contingency table

E = Frequencies in the "Expected" contingency table

\sum = The sum of, or the sum total of

The results of this statistical test are distributed as X^2 with degrees of freedom equal to the number of rows

⁴Ibid., p. 165.

in the contingency table minus one ($2 - 1 = 1$, for this study) multiplied by the number of columns in the contingency table minus one ($3 - 1 = 2$, for this study). This resulted in a df. of 2 for the distribution of χ^2 .

Test Used for Null Hypotheses Number Five and Six

Hypothesis five and six were tested using a Pearson's product-moment Correlation.⁵ Since the measures of the two groups were considered to be of interval level of measurement, the investigator was able to use the Pearson's r test for the last two hypotheses. The formula for this test is as follows:

$$r = \frac{N \sum XY - (\sum X)(\sum Y)}{\sqrt{[N \sum X^2 - (\sum X)^2][N \sum Y^2 - (\sum Y)^2]}}$$

Where:

X = Scores of the student teachers (raw scores)

Y = Scores of the cooperating teachers (raw scores)

N = The number of pairs of scores = 51 for this study

The results of this statistical test are distributed as "r" with its degrees of freedom equal to the number of

⁵D. S. Pearson, "A Correlation Index for Measures of Interval Strength," Psychometrika, XXI, 1940, pp. 312-320.

pairs of scores, minus one ($51 - 1 = 50$, for this study).

Although several other statistical tests were used by the investigator in testing the significance among the different categories on the biographical data, these tests were considered to be ancilliary to the main motif of the study and, therefore, the formulas for these tests were not presented in this appendix. However, reference is made to their origin in the text of the study. (See Chapter II on the Methodology of the Study.)

8. GRADUATE PREPARATION: (If any)

() Major in area of Education

() Major in area outside of
Education

APPENDIX F

CARD FORMAT FOR DATA PROCESSING

Column No.	Information	Range of Possibilities
1-2	Subject's Number	01-51
3-4	CPI Form Score	20-99
5	Sex 1 = Male 2 = Female	1-2
6	Marital Status 1 = Single 2 = Married 3 = Widow(er) 4 = Sep. or Div.	1-4
7	Age 1 = 20-29 years 2 = 30-39 " 3 = 40-49 " 4 = 50-59 " 5 = 60-69 "	1-5
8	Present Position 1 = Secondary Educator 2 = Other	1-2
9-11	Years of Experience 1 = 1-2 years of experience 2 = 3-4 " " " 3 = 5-6 " " " 4 = 7-8 " " " 5 = 9-10 " " " 6 = 11-20 " " " 7 = 20 & Up " " "	1-7

- | | | |
|----|----------------------------|-----|
| 12 | Amount of Education | 1-6 |
| | 1 = B.A. | |
| | 2 = (= B.A.) | |
| | 3 = (B.A.) | |
| | 4 = (= M.Ed.) | |
| | 5 = (M.Ed.) | |
| | 6 = (= Ph.D.) | |
| 13 | Undergraduate Preparation | 1-2 |
| | 1 = Education Major | |
| | 2 = Not Education Major | |
| 14 | Graduate Preparation | 1-2 |
| | 1 = Education Major | |
| | 2 = Major not in Education | |

APPENDIX G

RAW SCORES FOR STUDENT TEACHERS ON PRE-TEST OF PCI FORM

Subject Number	Raw Score	Subject Number	Raw Score	Subject Number	Raw Score
1.	37	20.	46	39.	51
2.	39	21.	46	40.	51
3.	40	22.	46	41.	51
4.	41	23.	47	42.	52
5.	42	24.	47	43.	52
6.	42	25.	47	44.	53
7.	43	26.	47	45.	53
8.	43	27.	47	46.	53
9.	43	28.	48	47.	54
10.	43	29.	49	48.	54
11.	44	30.	49	49.	54
12.	44	31.	49	50.	55
13.	44	32.	49	51.	55
14.	45	33.	50		
15.	45	34.	50		$\bar{X} = 47.540$
16.	45	35.	50		$S^2 = 25.402$
17.	46	36.	50		$S = 5.040$
18.	46	37.	50		
19.	46	38.	51		

APPENDIX H

RAW SCORES FOR STUDENT TEACHERS ON POST-TEST OF PCI FORM

Subject Number	Raw Scores	Subject Number	Raw Scores	Subject Number	Raw Scores
1.	38	20.	51	39.	58
2.	40	21.	51	40.	58
3.	42	22.	51	41.	59
4.	42	23.	51	42.	60
5.	42	24.	51	43.	60
6.	43	25.	51	44.	61
7.	43	26.	52	45.	61
8.	45	27.	53	46.	62
9.	46	28.	53	47.	62
10.	46	29.	54	48.	64
11.	46	30.	54	49.	66
12.	48	31.	54	50.	71
13.	48	32.	55	51.	74
14.	50	33.	55		
15.	50	34.	56		$\bar{X} = 53.118$
16.	50	35.	57		$s^2 = 58.676$
17.	50	36.	58		$s = 7.660$
18.	50	37.	58		
19.	51	38.	58		

APPENDIX I

RAW SCORES FOR COOPERATING TEACHERS ON PCI FORM

Subject Number	Raw Score	Subject Number	Raw Score	Subject Number	Raw Score
1.	33	20.	50	39.	57
2.	40	21.	50	40.	57
3.	40	22.	51	41.	58
4.	43	23.	52	42.	58
5.	44	24.	53	43.	59
6.	45	25.	53	44.	60
7.	45	26.	53	45.	62
8.	45	27.	54	46.	62
9.	45	28.	54	47.	63
10.	45	29.	55	48.	64
11.	48	30.	55	49.	65
12.	48	31.	55	50.	70
13.	48	32.	55	51.	72
14.	48	33.	56		
15.	49	34.	56		$\bar{X} = 52.902$
16.	49	35.	56		$s^2 = 57.000$
17.	49	36.	56		
18.	50	37.	56		$s = 7.550$
19.	50	38.	57		

APPENDIX J

COMPUTER LISTING OF CODED SCORES OF BIOGRAPHICAL
DATA FOR COOPERATING TEACHERS

1 2 1 2 2 1 2 1 0 2 3 1 1
2 5 0 2 3 4 2 1 2 4 2 2
3 6 4 1 1 2 2 1 1 3 4 1 1
4 4 5 2 2 1 2 1 0 2 2 1 0
5 4 6 2 2 3 2 1 2 5 2 2 0
6 4 5 2 2 3 2 1 1 3 1 0
7 5 9 2 1 1 2 1 0 9 1 1 1
8 4 0 2 2 1 2 1 0 2 2 1 0
9 5 7 2 2 3 2 1 1 9 4 2 2
1 0 5 0 2 2 1 2 1 0 4 3 1 1
1 1 4 5 2 2 4 2 1 3 4 5 2 2
1 2 5 6 2 1 1 2 1 0 1 1 1 1
1 3 4 0 2 2 4 2 1 1 3 2 2
1 4 5 3 2 2 3 2 1 0 2 3 2 2
1 5 4 6 2 2 3 2 1 0 4 2 2 0
1 6 6 3 2 1 4 2 1 2 6 5 2 1
1 7 5 5 1 2 3 2 1 1 7 3 1 1
1 8 4 9 1 2 2 2 1 1 6 2 2
1 9 5 6 2 3 3 2 1 0 3 4 2 2
2 0 5 6 2 2 2 2 1 0 3 3 1 2
2 1 4 5 2 2 3 2 1 0 8 5 2 2
2 2 5 5 1 2 1 2 1 0 8 6 1 1
2 3 6 2 2 2 2 2 1 1 3 1 2
2 4 5 6 2 2 2 2 1 0 7 4 1 1
2 5 5 1 2 2 1 2 1 0 7 3 1 1
2 6 5 7 2 2 1 2 1 0 2 2 1 0
2 7 5 2 1 2 4 2 1 0 8 5 2 1
2 8 5 3 2 1 3 2 1 2 5 5 1 1
2 9 6 0 2 1 3 2 1 0 3 5 2 2
3 0 5 4 2 2 1 2 1 0 7 2 2 0
3 1 5 7 2 2 3 2 1 1 4 4 1 1
3 2 5 0 1 2 3 2 1 2 2 3 1 1
3 3 6 2 2 2 2 2 1 1 3 1 1
3 4 4 3 2 2 4 2 1 1 8 5 1 1
3 5 6 5 1 2 1 2 1 0 2 4 1 1
3 6 5 0 2 2 1 2 1 0 7 5 2 2
3 7 5 5 2 2 1 2 1 0 4 4 1 1
3 8 5 3 2 2 4 2 1 0 5 2 1 0
3 9 5 4 2 2 4 2 1 1 9 5 1 1
4 0 5 6 2 2 3 2 1 0 3 3 2 2
4 1 5 5 2 2 3 2 1 0 1 2 1 0
4 2 3 3 2 2 2 2 1 0 8 3 2 1
4 3 7 2 1 2 3 2 1 1 8 5 2 2
4 4 5 6 1 2 1 2 1 0 3 3 1 1
4 5 5 6 2 4 3 2 1 0 9 3 1 1
4 6 4 5 2 2 2 2 1 0 6 3 1 1
4 7 4 6 2 2 3 2 1 2 5 2 2 0
4 8 7 0 2 3 4 2 1 3 3 1 0
4 9 4 9 2 2 4 2 1 2 7 5 2 1
5 0 4 9 1 2 2 2 1 1 3 2 2
5 1 4 4 2 1 5 2 1 3 8 5 2 2

Card Format

- Col. 1-2 Subject's Number
Col. 3-4 CPI Form Score
Col. 5 Sex
Col. 6 Marital Status
Col. 7 Age
Col. 8 Present Position
Col. 9-11 Years of Experience
Col. 12 Amount of Education
Col. 13 Undergraduate Preparation
Col. 14 Graduate Preparation

VITA³

Patricia Ann Hamil

Candidate for the Degree of

Doctor of Education

Thesis: AN ANALYSIS OF THE OBSERVED CHANGE IN THE STUDENT-TEACHERS' PUPIL CONTROL IDEOLOGY AS COMPARED TO THE PUPIL CONTROL IDEOLOGY OF THE COOPERATING TEACHER

Major Field: Secondary Education

Biographical:

Personal Data: Born in Beaver County, Oklahoma, December 24, 1924, the daughter of Mr. and Mrs. Ernest A. Shiner.

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Professional Experience: Elementary and secondary teacher in the Oklahoma City Public Schools, 1945-51; teacher of art in the Fox, Oklahoma, schools, 1954-55; teacher in the Norman, Oklahoma, public schools, 1955-61; teacher in the Enid, Oklahoma, public schools, 1965-66; Graduate Assistant in the College of Education, Oklahoma State University, 1968-69; Elementary Teacher Consultant in the Oklahoma City Public Schools, 1969-70; Language Arts Consultant (K-12) in the Oklahoma City Public Schools, 1970-71.