THE RELATIONSHIP OF TEACHER TEMPERAMENT

TO EFFECTIVENESS IN THE

CLASSROOM

DISSERTATION

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By

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The purposes of this study were (1) to determine the relationship of teacher temperament to effectiveness in the classroom and (2) to determine the relationship of the teacher's temperament to the teacher's sex, to the grade level taught, to the area taught (special education or regular education), and to the subject taught. It was hypothesized that (1) there is no significant relationship between the teacher's temperament and his effectiveness in the classroom, (2) there is no significant relationship between the teacher's temperament and sex, (3) there is no significant relationship between the teacher's temperament and the grade level he teaches (elementary or secondary), (4) there is no significant relationship in the teacher's temperament and the area he teaches (special education or regular education), and (5) there is no significant relationship between the teacher's temperament and the subject he teaches.

The sample for this study was composed of fifty elementary and fifty secondary teachers from five schools in an urban school district in the North Texas area. The teachers' temperaments were determined by the *Temperament Inventory* and the teachers' effectiveness was measured by the Texas
Teacher Appraisal System (TTAS). The statistical analyses indicated that (1) teachers with the sanguine or the melancholy temperaments were most effective while teachers with the phlegmatic temperament were least effective, (2) most female and male teachers had the choleric temperament while the fewest female and male teachers had the sanguine temperament, (3) most of the elementary and secondary teachers had the choleric temperament, (4) there was no relationship between the teachers' temperament and the area taught and, (5) most secondary teachers had the choleric temperament and the fewest secondary teachers had the melancholy temperament. Recommendations are made for future research to determine if a teacher's temperament could be used to predict effectiveness on the TTAS, on specific grade levels and for specific subject areas.
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CHAPTER I

INTRODUCTION

Good classroom management does not just happen. It exists because effective teachers have a clear perception of what constitutes a good learning environment and they work hard to produce it.

In 1983 the National Commission on Excellence in Education issued its report, "A Nation at Risk." This report captured the attention of the media, politicians, educators and the public.

The educational foundations of our society are presently being eroded by a rising tide of mediocrity that threatens our very future as a Nation and a people. If an unfriendly foreign power had attempted to impose on America the mediocre educational performance that exists today, we might well have viewed it as an act of war. As it stands, we have allowed this to happen to ourselves. (Boyer, 1984)

Radio, television and newspapers began devoting more time and space to the schools and 30 governors organized task forces to review the schools in their states. Teachers discussed the report in their local schools which encouraged the parents to show a renewed interest in the education of their children. Educational reform became the byword because of the findings reported in "A Nation at Risk." "This report appears to have been the firebrand that ignited the national campaign for educational improvement" (Bell, 1984).

Local school districts began to write school improvement plans and states started to work on educational reform packages which often
included competency testing for teachers and new appraisal systems. The push was for finding and keeping the best qualified and the most effective teachers for the classroom.

Texas joined the educational reform movement when the State Legislature mandated that the State Board of Education, as part of the school reform program, adopt an appraisal instrument. The Texas Teacher Appraisal System (TTAS) was based on the research of teaching effectiveness since one of its primary goals was to improve instruction in the classroom.

When Texas and the entire nation began to deal with the problem of "mediocrity in the classroom", the task of both attracting qualified students into the teaching profession and keeping the effective teachers already in the profession became more difficult. Fewer college students were entering the field of education and discontentment swelled within the teaching ranks. Usually "individuals enter teaching with a strong service ethic and a dedication to helping others" (McLaughlin, Pfeifer, Swanson-Owens & Yee, 1986). If teachers are not effective they tend to feel like failures and often seek other occupations.

Incongruity between an individual's motivation and abilities and his or her conditions of work creates a situation structured for psychological failure. Many U.S. teachers, especially the most competent ones, show signs of this sense of failure. Teachers often attempt to minimize their feelings of failure by acting in ways that are educationally counterproductive, such as: withdrawing emotionally from the classroom or becoming apathetic, placing increased value on material rewards, becoming hostile toward school officials, working for promotion to other positions that afford
them better prospects, or leaving the profession altogether. (McLaughlin, et al., 1986)

Because of these findings, there has been a great deal of research on teacher effectiveness but little recent research concerning the temperaments of teachers. Since a teacher's temperament could play a critical part in the effectiveness of his teaching, research is needed to determine if a relationship exists between a teacher's temperament and his effectiveness in the classroom.

"More than 400 years before Christ, Hippocrates, the Greek physician and philosopher, propounded the theory that there are basically four types of temperaments" (LaHaye, 1972). The four temperaments are sanguine, choleric, melancholy, and phlegmatic; each temperament having definite strengths and weaknesses. Could it be possible that one of these temperaments better equips a teacher to cope with the pressures of teaching?

Statement of the Problem

The problem of this study was to determine if there is a relationship between the teacher's temperament as determined by the Temperament Inventory and his effectiveness in the classroom as measured by the Texas Teacher Appraisal System (TTAS).

Purposes of the Study

One purpose of this study was to determine the temperaments of 100 teachers who were rated either most effective or least effective by the TTAS, and to ascertain if a relationship exists between the teacher's temperament and his effectiveness in the classroom. The second purpose was to determine the relationship of
the teacher's temperament as it relates to the teacher's sex, to the grade level taught, to the area taught (special education or regular education), and to the subject taught.

Hypotheses

The following research hypotheses were tested.

1. There is no significant relationship between the teacher's temperament as measured by the Temperament Inventory and his effectiveness in the classroom as measured by the TTAS.

2. There is no significant relationship between the teacher's temperament as measured by the Temperament Inventory and sex.

3. There is no significant relationship between the teacher's temperament as measured by the Temperament Inventory and the fact that he teaches elementary school students or high school students.

4. There is no significant relationship in the teacher's temperament as measured by the Temperament Inventory and the fact that he teaches special education students or regular education students.

5. There is no significant relationship between the teacher's temperament as measured by the Temperament Inventory and the subjects he teaches.

Background and Significance of the Study

To assure that student learning is taking place, a positive classroom environment must be established. There are classroom management techniques which teachers can learn that will provide for an environment which is conducive to student learning.
Ineffective management might directly impede learning by causing student behavior that is incompatible with attention or comprehension. Thus, an operational goal for the teacher's management system, related to creating a climate for learning, is to promote the development of high levels of engagement in academic tasks, and to prevent widespread disruptive or other off-task behavior. (Evertson, 1986)

Classroom management is important as evidenced by Dunkin's and Biddle's statement: "It seems to us that adequate management of the classroom environment also forms a necessary condition for cognitive learning; and if the teachers cannot solve problems in this sphere, we can give the rest of teaching away" (Dunkin & Biddle, 1974).

A great deal of research on effective teaching practices has been done by the Classroom Organizations and Effective Teaching Project of the Research and Development Center for Teacher Education at the University of Texas at Austin. Evertson and Emmer have done extensive research in the area of teacher effectiveness in the elementary and secondary schools. They are able to list several characteristics which differentiate the most effective teachers from the least effective teachers.

In the elementary school setting the most effective teachers are distinguished from the least effective teachers by these characteristics.

1. Analyzing classroom tasks: better managers demonstrated an ability to analyze the task of the first few weeks of school in precise detail. Their presentations to the students about rules, procedures and assignments were very clear and they provided specific
feedback to students when inappropriate behavior occurred.

2. Teaching the going-to-school skills: better managers incorporated the teaching of rules and procedures as a very important part of instruction during the first few weeks. They taught going-to-school skills by providing practice and moving through procedures, giving feedback, responding to signals and pointing out to students when they were behaving appropriately.

3. Seeing the classroom from the student's perspective: the better managers appeared to predict what would confuse or disrupt the students and what would be of immediate concern to them.

4. Monitoring student behavior: better teachers monitored students closely during the first few weeks and dealt with problems immediately. (Evertson & Emmer, 1985)

On the secondary level the following characteristics differentiated the most effective teachers from the least effective teachers.

1. Instructing students in rules and procedures: the more effective managers had more complete systems and were more successful in teaching and installing rules and procedures.

2. Monitoring student compliance with rules: more effective teachers were less likely to ignore disruptive behavior and were more likely to use the rules and procedures when giving feedback to students.

3. Developing student accountability for work: the better teachers had stronger and more detailed accountability systems.

4. Communicating information: effective managers were better able to segment complex tasks and break them down into step-by-step procedures.

5. Organizing instruction: more effective managers wasted less time in these activities and had more on task time. (Evertson & Emmer, 1985)
There is a number of observable behaviors one can monitor to
determine the effectiveness of the teacher in managing his
classroom. These behaviors include: "frequent failure by many
students to complete assignments satisfactorily, high rates of off-
task behavior, wide spread lack of cooperation, and frequent
disruption of classroom activities" (Evertson, Emmer, Clements,
Sanford & Worsham, 1984).

A classroom which is well managed

is a task oriented predictable environment where
students know what is expected of them and how to
succeed. Research has shown that in a class such as this
most of the students will make good achievement gains.
(Brophy & Evertson, 1976)

School districts are seeking the best people to fill the
classrooms. The supply of well qualified candidates is much more
limited today than anytime in recent years. Fewer college students
are preparing for teaching careers and experienced teachers are
leaving the profession. Some of the reasons students are not
entering education are

reductions in the earning power of teachers relative to
that of individuals in other occupations and professions;
the opening of career opportunities in other fields for
minorities and women; increased requirements for
certification; the perception among college students that
both teacher education and teaching are low status
enterprises; and a decline in the quality of working
environments that teachers confront. (Hawley, 1986)

The experienced teachers are disenchanted because: many states
require teachers to take a literacy test; the new appraisal methods
cause anxiety among the teachers; there is a lack of a
comprehensive discipline program; there is a disregard of teachers by students, parents, and the community; and low salaries. "According to the National Education Association, it was estimated that 30% of our nation's teachers would prefer doing something other than teaching" (Bardo, 1979). Teachers are pulled in many directions, so frustration builds. One frustrated teacher described his position as things are set up these days so that teachers never feel they can do a good job. The classes are too large, the materials aren't there, and the students come to school with incredible needs that teachers can't meet. We are constantly pushed. We are constantly told by the superintendent that teachers have to do this, and we are constantly told by parents that teachers have to do that. Everyone expects the schools to take care of social problems. I think that schools could be a very progressive force—but not with the resources they currently have. I feel angry; I feel depressed; I feel frustrated. It is a very difficult situation for those teachers who care. (McLaughlin, et al., 1986)

There are, on the other hand, teachers who remain in the teaching profession for many years. They are able to cope with the literacy tests, the appraisal methods, the lack of a strong discipline program, the low status and the low salaries. Is it possible that a specific temperament better equips a teacher to cope with the pressures of teaching and enables him to be more effective in the classroom?

Universities could screen applicants entering their schools in order to better predict the success and failure rate of future teachers on the basis of their temperament. Temperament screening could become particularly valuable information in light of the
surveys which have shown that one of every four teachers eventually leaves teaching. Teacher attrition is a matter of deep concern to educational policy-makers and administrators because of the vast resources vested in teacher education and in-service training. (Kremer-Hayon & Kurtz, 1985)

Education is a big business. "Twenty billion dollars are spent each year on the public education system of our country" (Ornstein & Levine, 1985). Additional monies are spent annually for teacher training.

Policy makers and practitioners alike recognize that issues associated with teacher quality go far beyond the low scores of many recruits on competency tests or scattered examples of incompetence in the classroom. The issues most central to the health of the teaching profession and to the long-range quality of U. S. education have to do with the fact that competent teachers--indeed, some of our most talented teachers--believe that they can't and thus won't, teach.

Eric Cullins, a white male teacher in his early thirties, said he wanted to be a teacher because he felt that children "deserved more than they were getting in school." After three years in the classroom, however, he is no longer certain that he has the "emotional stamina it takes to keep up with this environment, because there's so much strife and frustration." He says he often has days when teaching is like "pushing toothpicks into cement." At times he's so tired that, during his lunch break, all he can do is "stare and chew." Ultimately he expects to have to move on because, as he puts it, "I can't give what it takes to be an elementary teacher for twenty years--I'd go mad. (McLaughlin, et al., 1986)

This case study exhibits that not only money and time have been wasted but even more importantly, the children will lose a teacher who really cares. "The thing that makes teaching meaningful
and worthwhile is watching students learn and 'working with their wonder” (McLaughlin, et al., 1986).

A veteran teacher with 30 years of classroom experience said that "teachers are set up to experience constant failure," because so much of their time and energy is spent attending to noninstitutional responsibilities or to controlling a disinterested (but conscripted) clientele. (McLaughlin, et al., 1986)

People have different limits. Is it possible that one temperament may be better able to cope with class composition, lack of materials, poor administrative decisions, isolation, and a lack of recognition? Very little research has been done concerning the temperaments of adults.

Research is needed to determine if indeed a teacher's temperament does impact his effectiveness in the classroom. The results of this research would be valuable to people counseling college students who are making career decisions.

Assumptions

The major assumptions underlying this study are:

1. The teachers responded honestly to the Temperament Inventory.

2. The Texas Teacher Appraisal System is valid and did measure teacher effectiveness on all levels and in all subject areas.

3. The appraisers were objective and did adhere to the state training procedures as designed for the TTAS.
Limitations

1. Correlations obtained in a relationship study cannot establish cause and effect relationships between the variables correlated.

2. The TTAS is new and some of the appraisers, although they have been trained by the state, may lack confidence with the instrument.

Definition of Terms

1. Temperament "is the combination of inborn traits that subconsciously affects man's behavior. It is affected by nationality, sex, and environment" (LaHaye, 1972).

2. Character "is the real you. It is the result of your natural temperament modified by childhood training, education, basic attitudes, beliefs, principles, and motivations" (LaHaye, 1972).

3. Personality "is the outward expression of ourselves, which may or may not be the same as our character, depending on how genuine we are. Personality may be a pleasing facade for an unpleasant or weak character" (LaHaye, 1972).

4. Sanguine Temperament

...is the warm, buoyant, lively, and enjoying temperament. He is receptive by nature. A person with this temperament has an unusual capacity to enjoy himself and usually passes on his hearty nature. He enjoys people and is at his best when surrounded by friends and where he is the life of the party. He often speaks without thinking and can appear more confident than he really is. His lovable disposition gets him by the rough spots of his life. Sanguine people make good salesmen, hospital
workers, teachers, conversationalists, actors, public speakers and occasionally they are good leaders. (LaHaye, 1972)

5. Choleric Temperament

...is the hot, quick, active, practical, and strong-willed temperament. He is often self-sufficient and very independent. He tends to be decisive and opinionated, finding it easy to make decisions for himself as well as for other people. This temperament thrives on activity. He does not need to be stimulated by his environment, but rather stimulates his environment with his endless ideas, plans, and ambitions. He has a practical, keen mind capable of making sound, instant decisions or planning worthwhile, long range projects. He takes a definite stand on issues and can often be found crusading against social injustice. His emotional nature is the least developed part of his temperament. He does not sympathize easily with others, nor does he naturally show or express compassion. People with this temperament make good executives, idea men, producers, dictators, or criminals depending upon their moral standards. (LaHaye, 1972)

6. Melancholy Temperament

...is analytical, self-sacrificing, gifted, perfectionist type and has a very sensitive emotional nature. He is prone to be an introvert, but since his feelings predominate, he is given over to a variety of moods. A person with this temperament is a very faithful friend but does not make friends easily. He has a strong desire to be loved and disappointing experiences make him reluctant to take people at their face value. His exceptional analytical ability causes him to diagnose accurately the obstacles and dangers of any project he has a part in planning; and so he is often reticent to initiate some new project or is in conflict with those who wish to. A person who is melancholy usually finds his greatest meaning in life through personal sacrifice. He seems to have a desire to make himself suffer and will often choose a difficult life vocation involving great personal sacrifice. Once chosen he is
persistent in his pursuit. These people can be great artists, musicians, inventors, philosophers, and educators. (LaHaye, 1972)

7. Phlegmatic Temperament

...is calm, cool, slow, easy-going, and well balanced. Life for him is a happy unexcited, pleasant experience in which he avoids as much involvement as possible. He has a high boiling point and seldom explodes in anger or laughter, but keeps his emotions in control. He is the one temperament type who is consistent every time you see him. He enjoys people and has a natural dry sense of humor. One of his great sources of delight is needling or poking fun at the other temperament types. He is annoyed by the aimless, restless enthusiasm of the Sanguine and often confronts him with his futility. He is disgusted by the gloomy moods of the Melancholy and is prone to ridicule him. He takes great delight in throwing ice water on the bubbling plans and ambitions of the Choleric. This temperament tends to be a spectator in life and tries not to get too involved with the activities of others. He will not take leadership on his own but when it is put on him he proves a capable leader. He has a conciliating effect on others and is a natural peacemaker. A person with this temperament makes a good diplomat, accountant, teacher, leader, or scientist. (LaHaye, 1972)

8. Temperament Inventory is an instrument which attempts to measure an adult's temperament. There are 80 yes or no items and it can be completed in about 20 minutes. This Inventory yields a score for four temperaments.

9. Essential Elements the required information which must be included in the curriculum as determined and mandated by the State of Texas.
10. Teaching

does not mean lecturing, exclusively, or discussing, exclusively, or tutoring, exclusively. Rather, it means the combination of all of these ways of teaching plus the classroom recitation, or relatively rapid-fire teacher questioning and pupil responding and so-called seatwork. In addition, classroom teaching includes a variety of managerial activities that keep the whole process moving along in an orderly way. (Gage, 1985)

11. The Most Effective Teacher is a teacher who receives a rating of clearly outstanding or exceeding expectations on the TTAS.

12. The Least Effective Teacher is a teacher who receives a rating of satisfactory, below expectations or unsatisfactory on the TTAS.

13. Appraiser an individual who is assigned to assess the performance of a teacher. One appraiser is the teacher supervisor, who is usually the school principal, and the other appraiser is anyone who has taught a minimum of two years, has a valid teaching certificate, and is approved by the local school board. Appraisers in both of these categories have received training and are certified by the State to be appraisers.

14. Texas Teacher Appraisal System (TTAS) "is a tool for the improvement of instruction and is comprehensive and generic enough to afford even the best teacher opportunities for improvement" (Texas Education Agency, 1986). Each teacher is observed and given credit in five domains by satisfying indicators. Each appraiser is trained and certified through the state training program and must observe in the classroom for a minimum of 45 minutes. This instrument is
based upon the assumption that teaching is an intentional act which has as its goal student growth. Teaching includes, but is not limited to "planning, delivering, evaluating, and reporting of student learning of the essential elements' as required by statute and regulation". (Texas Education Agency, 1986)

Temperament Inventory -The Instrument

This inventory was written by Robert J. Cruise, W. Peter Blitchington and W.G.A. Futcher and is a test based on the four temperament theory of personality. The inventory contains 80 yes/no items and yields four scores; the highest one indicates the teacher's dominant temperament. It is published by Andrews University in Berrien Springs, Michigan.

Reliability

Reliability was determined for each of the four Temperament Inventory subscales by use of Cronbach's Coefficient Alpha (1951), an estimate of internal consistency which is a generalization of the basic Kuder-Richardson (1937) formula. Reliability estimates for the four subscales are .88, .84, .90 and .88 for phlegmatic, choleric, sanguine and melancholic, respectively. (Cruise, Blitchington, & Futcher, 1980)

Validity

The content validity of the Temperament Inventory was established by six judges, and items were eliminated if there was a consensus that they were not relevant measures of temperament, not consistent with the definitions suggested in the literature, and not clearly worded. (Cruise, et al., 1980)

These judges eliminated approximately 90 items which left 208 items. The process was begun with about 300 items which were designed to measure temperament. "Some items were eliminated from the original pool of items, leaving for analysis items which
appeared on the surface to be unique toward measuring the four factors as theorized" (Cruise, et al., 1980).

Four hundred fourteen people were given the inventory. They were mostly middle-class people and graduate students from the mid-western region of the United States.

Analysis of frequency distributions was conducted and items exhibiting low variance and marked skewness were eliminated. Further examination of similar items revealed some significant differences in response variation and those items with the lesser variation were excluded. The remaining 182 items were factor analyzed to determine those items to be included in the revised instrument. After eliminating all items which had low factor loadings (below .30) 127 items remained. The revised instrument was then administered to an additional non-probability purposive sample of approximately 800 people which brought the total sample size up to 1200. These additional subjects were more heterogeneous. Factor analysis was used to analyze the remaining 127 items, 13 of which were eliminated because of either a low or non-unique factor loading. The revised instrument consisting of 114 items was administered to 2200 more subjects, which gave a total sample size of 3409. Factor analysis of the data indicted very little fluctuation in the factor structure. However, 34 more items were eliminated due to either a low or non-unique factor loading, bringing the final form of the instrument to 80 items. (Cruise, et al., 1980)

The construct validity of this instrument was established by factor analysis which revealed the four factors hypothesized as parts of the temperament.

The Temperament Inventory appears to measure the theoretical construct defined as early as Hippocrates. The Eysenck Personality Inventory measures the same general construct as the Temperament Inventory, and was therefore used for the study of concurrent validity.
Product moment correlation coefficients were obtained between each Eysenck Personality Inventory score and the corresponding score transformed from Temperament Inventory. This procedure was followed using (a) factor scores obtained by using the factor score coefficients of the factor analysis program, and (b) factor scores obtained from the simple summation method. The correlations obtained from distributions of scores for the 1533 subjects were:

(a) \( r_{EE} = .474 \)
\( r_{NN} = .532 \)
(b) \( r_{EE} = .531 \)
\( r_{NN} = .632 \)

Letters N & E will denote the actual scores on the neuroticism and extroversion scales from the EPI. Nl and El will denote EPI scores projected from the actual T.I. scores. The validation coefficients arising from the simple transformation described are both statistically and practically significant. (Cruise, et al., 1980)

The Temperament Inventory has 80 items and can be completed in 10 to 20 minutes. The scores are given in percentile ranks on each of the four factors -- sanguine, choleric, phlegmatic and melancholic. The researcher chose this instrument because it does yield four separate scores rather than one composite score.

The Texas Teacher Appraisal System

This instrument was developed to implement House Bill 72 and is intended to encourage professional growth for both teachers and administrators and to improve instruction in the classrooms of Texas. TTAS does not attempt to assess all aspects, duties, and responsibilities of teaching. In part, this is because the legislative requirements provide a more narrow focus and, in part, because the state of the art of teacher evaluation is not advanced to an operational level in some areas. Instead, the system has been based upon
existing classroom based research on teaching craft, knowledge and experience. The process is designed to collect samples of valid information about teaching, in a manner which can support reliable decisions about teacher performance. (Texas Education Agency, 1986)

The appraisal system was drafted during the 1985-86 school year. The Texas Education Agency reviewed the literature on effective teaching practices from research by Brophy, Evertson, Doyle, Emmer, Evertson, Hinely, and Ponder and looked at other states which already had appraisal systems. Over 150 randomly selected Texas school districts gave input from their evaluation systems. Thirty thousand teachers over the state were asked for input for the appraisal instrument.

The State Board of Education Committee on Personnel reviewed draft materials, directed revisions, and authorized expert review of the draft materials in September, 1985. The experts were Dr. John Goodlad, Dr. Richard Manatt, Dr. Lester Solomon, and Brigadier General Billy Bowles. The pilot study, which began in October, included six school districts: Slaton, Santa Rosa, Seguin, Grandfalls-Royalty, Port Arthur, and New Boston. Local appraisers in each district were trained to use the pilot instrument and procedures and conducted teacher appraisals. (Texas Education Agency, 1986)

A public hearing was held in February of 1986. The TTAS was revised according to the pilot study and public hearing.

There are six assumptions which are basic to this instrument. They are

1. Teaching is an intentional act which has as its goal student growth. This is no single model of teaching mandated by the TTAS.
2. Some common teaching behaviors occur across subject matter and grade level which can serve as areas of evaluation.
3. Most teachers will not exhibit all of the behaviors with a quality of performance which always exceeds expectations.
4. Each teacher is capable of improving.
5. Classroom teaching behaviors may vary according to the learning goals and objectives of the lesson observed.
6. The appraisal requires classroom observation and therefore, the observers will be seeing the teacher exhibit what he can do, not necessarily what he usually does. (Texas Education Agency, 1986)

Each formal observation was at least 45 minutes in length. The teachers were observed by two different appraisers who marked 55 indicators from four domains according to absent or below expectation, standard expectation, or exceptional quality. The fifth domain was marked standard expectation unless documentation indicated otherwise. All indicators in the first four domains are observable. Some of the indicators are: keeps students engaged, specifies expectations, prevents off tasks behavior and reinforces appropriate behavior. Each district has used the instrument at least once prior to the study.

This instrument will be revised during the 1987 session of the Texas State Legislature. A committee of teachers, principals, and administrators will be appointed to review the instrument.

Procedures for Implementation of the Study

Subjects

The teachers were selected from a large urban school district in the North Texas area to complete the Temperament Inventory. The 100 subjects in this study who completed the Temperament Inventory were comprised of 48 teachers rated most effective and
52 teachers rated least effective on the TTAS. This sample of 100 teachers was further divided into several sub-groupings: 83 females and 17 males, 50 elementary teachers and 50 secondary teachers, 79 regular education teachers and 21 special education teachers. The high number of special education teachers was due to the fact that 1 of the 2 secondary schools used in the study served special education students exclusively. The secondary teachers represented 7 different subject areas which were: English, math, science, foreign language, history, industrial arts, and art.

This sample was drawn from 3 elementary schools and 2 secondary schools. The researcher elected to control the variable of level taught (elementary and secondary teachers) in order to have a basis for comparison, but could not control for the other variables due to randomization.

The researcher administered the Temperament Inventory to the teachers who had agreed to participate in the study. The teachers were told that the purpose of this study was to look at the temperaments of teachers and see if relationships did exist with the sex of the teacher, the level taught, the area taught and the subject taught.

The inventories were numbered numerically and were given to the teachers during a faculty meeting. The principal wrote all the teachers' names on a sheet of paper in the same order in which the inventories were distributed. The teachers wrote their sex, level taught, area taught and the secondary teachers wrote their subject taught on the front of the inventory. The teachers had 20 minutes to complete the inventory and to return it to the researcher. When all
of the inventories were completed, the researcher gave them to the principal who marked each inventory with a M or L, thus indicating to the researcher the most effective and the least effective teachers, respectively. The researcher, before scoring the surveys, randomly selected 50 elementary and 50 secondary teachers' surveys to be used in this study. The researcher picked every other survey from the total received until 100 surveys were selected. No attempt was made to control for the other variables due to randomization.

Research Design

This study was designed to determine if a relationship does exist between a teacher's temperament and his effectiveness in the classroom. It was also designed to ascertain if a relationship exists between the teacher's temperament and sex, level taught, area taught and subject taught.

The teacher's temperament was established by the Temperament Inventory, while the teacher's effectiveness in the classroom was concluded from his rating on the TTAS. A completely randomized factorial design (CRF-22) which meets the following requirements was used.

1. There are two or more treatments and each treatment has two or more levels. When the experiment contains only two treatment levels, the f test is analogous to a t test for independent samples.
2. All levels of each treatment are investigated in combination with all levels of every other treatment.
3. Random assignment of treatment combinations were made to experimental units. (Huck, Cormier, & Bounds, 1974)
Procedures for Collecting Data

The researcher administered the Temperament Inventory to the teachers who volunteered to participate in this study during April and May of 1987. The teachers included their sex, level taught, area taught, and the secondary teachers included the subject taught on the Temperament Inventory.

The effectiveness of each teacher was determined by the teacher's rating on the second appraisal of the TTAS during the second semester of the 1986-87 school year. The school administrators conducted the appraisals in the local schools and gave that information to the researcher.
CHAPTER BIBLIOGRAPHY


CHAPTER II

REVIEW OF RELATED LITERATURE

Little research has been done concerning the temperaments of teachers. The Temperament Inventory is an instrument which can be used to ascertain adult temperaments, and it is based on the four temperament theory of personality. The four temperament theory is not new.

Hippocrates, a Greek, is credited with the doctrine of the four temperaments and he also advanced an explanatory theory in terms of the so-called humors. This theory was later popularized and extended by the Roman physician Galen. Galen described a cause for each of these four temperaments: sanguine, always full of enthusiasm, was due to the strength of the blood; the melancholic, sadness, was due to the over functioning of black bile; the cholic, irritability, was attributed to the predominance of the yellow bile in the body; and the phlegmatic person's slowness and apathy was traced to the influence of the phlegm. This four-temperament theory of personality has proven to be very influential. (Eysneck & Eysneck, 1985)

Immanuel Kant, Europe's foremost philosopher, wrote in Anthropologie a description of these four temperaments in his chapter on the temperaments. However, "Wundt was the first psychologist to challenge the categorical type of description of the ancient Greeks and of Kant and to introduce a dimensional one instead" (Eysneck & Eysneck, 1985). The authors of the Temperament Inventory, unlike Hippocrates and later researchers like Eysneck,
reject the notion of mutual exclusion among the four temperaments. Hans J. Eysneck and Micheal W. Eysneck have done extensive research on the four temperament theory and H.J. Eysneck has developed a personality inventory (EPI) which

measures two orthogonal dimensions of personality which, together, yield four temperaments. The two dimensions of personality or temperament are introversion/extroversion (E) and high/low neuroticism (N). In combination they comprise four temperaments: neurotic introvert, neurotic extrovert, stable introvert, and stable extrovert corresponding to Hippocrates' melancholic, choleric, phlegmatic and sanguine, respectively. (Cruise, et al., 1980)

The Temperament Inventory's authors believe that they extend Eysneck's method of the four-temperament scheme and produce a better indicator of a person's temperament: A four category approach has been incorporated into the Temperament Inventory; while retaining Eysneck's original four-temperament scheme, we have added the capacity to score individuals on each of the four-temperament scales separately. Thus, while the Eysneck Personality Inventory would place a person, say, in the neurotic introvert (melancholic) category but provide no more information about him than that, our method would allow one to observe his scores on the other three categories of temperament as well. We believe that this provides more information for understanding individual personalities. (Cruise, et al., 1980)

The Temperament Inventory though developed recently, is supported by research. The instrument was chosen for the purposes of this study because it yields a complete picture of an individual
by indicating a raw score for each of the four temperaments (phlegmatic, sanguine, choleric and melancholy).

Although the research dealing with teacher temperaments is limited, there has been extensive research dealing with teacher effectiveness. Despite the available literature on the subject of effectiveness in the classroom, questions still remain: "Can teaching be taught and learned? Can we influence how teachers teach? Can we change the thoughts and actions of teachers" (Gage, 1985)?

Teacher education programs have been subjected to harsh criticisms. Few people seem to hold education in high regard. In 1963 Americans were surprised that James Bryant Conant, the former president of Harvard University, had come back from his diplomatic assignment in West Germany to devote himself not merely to education, which was remarkable enough, but to teacher education. (Gage, 1985)

Teachers who are graduates of teacher education programs are among the critics of teacher education. Students in these courses have not been taught how to organize a course, how to plan a lesson, how to manage a class, how to give an explanation, how to arouse interest and motivation, how to ask the right kinds of questions, how to react to students' responses, how to give helpful correction and feedback, how to avoid unfair biases in interacting with students--in short, how to teach. (Gage, 1985)

The reason for the apparent poor quality of teacher training programs has been the lack of research-based knowledge: "Only in the late 1960's and the 1970's did the findings of studies begin to converge" (Gage, 1985) on the practices of effective teaching. Today students in schools of education are able to learn techniques which
are based on viable research that will, if mastered, help them to plan a lesson, to manage a class, to explain, to arouse interest, and in short, to become more effective teachers.

Teacher effectiveness research has occupied a conspicuous place within the spectrum of scientific inquiry in education. Interest in the question of what distinguishes superior from inferior teachers has flourished since the early 1920's, and by midcentury had stimulated an impressive number of studies (Dumas & Tiedeman, 1950). The quest was rejuvenated in the 1950's with the formation of the AERA Committee on Criteria of Teacher Effectiveness (American Educational Research Association, 1952, 1953), whose work culminated in the publication of the Handbook of Research on Teaching (Gage, 1963). This developmental path underscores the axial role of the teacher effectiveness question within the broader field of research on teaching. Even a cursory inspection of recent literature suggests that effectiveness inquiry continues to attract the resources of researchers, funding agencies, and professional organizations. (Doyle, 1977)

The research began to take shape with the publication of the Handbook of Research on Teaching (Gage, 1963). Prior to that publication, there really was no field of research on teaching. Only a small number of scientists could be identified as having a primary interest in research on teaching. Coincidental with the publication of the Handbook came massive federal involvement in educational research and development. Centers at Stanford, the University of Texas, and the University of Wisconsin, among others, were funded to study teaching and instruction. The mid 1960's also saw federal monies used to start educational laboratories such as the Far West Laboratory for Educational Research and Development and Research for Better Schools. The laboratories were given the mission of improving the practice of schooling and of teacher education. The result of federally supported and independent research
efforts over the last 20 years has been an enormous increase in our knowledge about sensible, effective, and efficient teaching practices. (Berliner, 1984)

Managing a classroom can be very difficult. The students are expected to be engaged in academic tasks. This management involves deciding what needs to be taught and then determining which students are ready or able to learn what is taught. Often the material must be adapted to the particular needs of the students. Next the teacher must determine how to motivate the students in order to keep them engaged. Should a teacher use small groups, large groups, or independent learning? Next the teacher must teach the material, evaluate the students, and reteach if necessary. Teaching can be an awesome assignment.

Classrooms are complex places. Often twenty-five to thirty-five children are contained in a rather tight space, along with one or two adults. There is a great deal going on. The children are there because they are supposed to be there, and the teachers are trying to engage their students in the study of whatever content is prescribed. The complexity of classrooms, when joined with the demand that certain things take place there, means that they must in some way be managed. Until recently very little thought was given to the teacher as an executive. On the contrary, teachers were thought simply to be experts in the subjects they taught, while students were willing participants in the teaching of these subjects. The task of teaching seemed fairly straightforward: Just get the youngsters together, present them with a well-constructed lesson, and you could go home knowing that you did a day's work well. This view prevailed for a good part of the last century and most of this one. Then researchers began studying actual classroom settings. They found them far more complex than the folk wisdom of the time had led most people to believe. And they found teachers engaged in
more complex and sophisticated endeavors than they had traditionally been given credit for. (Fenstermacher & Soltis, 1986)

The research on effective teaching practices has defined some techniques that should be used consistently by teachers to improve student achievement. The Texas Teacher Appraisal System looked at this available research and designed an instrument to evaluate how well a teacher does use these proven techniques: "Teacher effectiveness refers to the ability of a classroom teacher to produce higher than predicted gains on standardized achievement tests" (Good, 1979).

The source of this ideal of what makes an effective teacher came from Edward Thorndike during the first of the 20th century. Later on during the 20th century, B. F. Skinner added meaning to this idea.

In 1954, in a paper suggestively entitled 'The Science of Learning and the Art of Teaching, Skinner contended that 'the whole process of becoming competent in any field must be divided into a very large number of very small steps, and reinforcement (i.e., reward) must be contingent upon the accomplishment of each step.' Ten years later he stated the point even more boldly: 'The application of operant conditioning to education is simple and direct. Teaching is the arrangement of contingencies of reinforcement under which students learn.' In single terms teachers could bring about the learning they sought from students by knowing precisely when and how to reward students for behaviors that increasingly approximated the goals set for them . . . Researchers have found there are many ways for teachers to increase the time that students are engaged. These skills [plus other skills teachers can learn] are considered generic teaching skills because they appear to be unrelated to student background characteristics like
race or home environment, to the subject matter taught, or to the nature of the school setting. (Fenstermacher & Soltis, 1986)

The teacher is really a classroom manager. He is the person who makes numerous decisions such as the way the student will spend his time in class, what will be taught, and the manner in which each student will be evaluated. Some researchers call this the executive approach to teaching.

The form of research used to study the executive approach to teaching is often called 'process product research.' The process is the teacher's activity, while the product is the student's mastery of what is taught. The literature about this form of teaching is often referred to as the 'teacher-effectiveness' literature because so much stress is placed on the effectiveness of the classroom teacher... Its value is that it provides a very clear, straightforward means to move some specified knowledge from a source (for example, a book, teacher, or film) to the mind of the learner. Indeed, if followed with care, the executive approach increases the probability that more of the students will learn more of the content than would otherwise be the case. (Fenstermacher & Soltis, 1986)

In 1954 after the Brown versus The Board of Education Decision, the United States government looked to the schools to eradicate poverty and ignorance among the minorities. This decision grew stronger in the 1960's and lawmakers became quite interested in the amount of money allotted to education and how it was being spent. In 1964 Congress mandated a study of equal educational opportunity among various racial and ethnic groups.

During the late 1960's and early 1970's, some widely-publicized studies reported that the amount of variation in student achievement attributable to school inputs was
negligible when compared to the amount attributable to student background characteristics. The conclusion was that the determinants of student achievement lie chiefly outside the control of the schools, with the schools largely powerless to compensate for the effects of the non-school factors. (Block, 1983)

Many people were unwilling to accept this conclusion. During the 1970's, researchers started to produce material which focused on the factors which composed effective schools. "The effective schools research showed that when schools were matched on student background characteristics, the levels of student achievement could differ greatly" (Block, 1983).

One of the best known studies of the 1960's and 1970's which claimed that the school did not really impact student achievement was *The Equality of Educational Opportunity (The Coleman Report)* by James S. Coleman. This study was by the National Center for Education Statistics of the U. S. Office of Education. The basic conclusion of this report was that

schools bring little influence to bear on a child's achievement that is independent of his background and general social context; and that this very lack of an independent effect means that the inequalities imposed on children by their home, neighborhood, and peer environment are carried along to become the inequalities with which they confront adult life at the end of school. (Coleman, 1966)

There was criticism relating to the methodology of this study which focused on

the high nonresponse rate and its nonrandom pattern across school subsamples and across survey questions, the questionable validity of certain measures, the cross-sectional, rather than longitudinal, nature of the
research, the problems associated with the use of school and district averages, and the use of variance partitioning procedures despite substantial intercorrelation between independent (input) variables. (Bridge, 1979)

Despite this criticism, The Coleman Report was a major research study which implied that the factors relating to student achievement were not controlled by schools. Other reports shared this belief.

As discussion and debate ensued, pessimistic appraisals of school effects were echoed in other reports and studies (e.g., Jencks, et. al., 1972; Averch, et. al., 1972) as well as in reanalyses of the EEO data by The Harvard University Faculty Seminar. (Block, 1983)

Since the 1970's researchers have studied the effective school movement. The several major factors which have led to this research are

the antipathetic reaction of many educators toward the pessimistic appraisals of school effects found in the 1966 Coleman Report and several other well publicized studies conducted around that time [like Jencks and Mostellek] A second factor was the psychological climate prevalent among practitioners across the country by the mid-1970's. The third factor related to the rapid growth of the effective schools movement was the common sense nature of its most publicized findings. The major determinates of school effectiveness discerned across studies include strong instructional leadership, an orderly school climate, high expectations, an emphasis on basic skills, and frequent assessment of student progress. These factors had an appeal which helps to explain their ready acceptance in the educational community of research findings. (Bickel, 1983)

Another of the major determinants of school effectiveness was the cause-and-effect conception of the behaviorists.
The behaviorists' "cause-and-effect conception of teaching and learning" shaped most of the educational research programs for two decades following *The Coleman Study*. Researchers viewed teaching as a discrete set of behaviors and tried to find whether different sets of behaviors were related to different learning gains by students. The researchers were not burdened with fancy ideas about the nobility of teaching, nor did they pay much attention to the so-called inputs of education (such as the size of the school library, per-pupil expenditure, or the number of college recruiters who visited the school in a year). On the contrary, they had one burning question: Do the instructional behaviors of some teachers lead to systematic gains in student achievement, while different instructional behaviors by other teachers show no systematic gains in student learning... Researchers were able to look directly into classrooms for answers due to advances in research designs and data analysis. The government funded much of this research through the newly established National Institute of Education in order to attempt to vindicate its past investment in education. They hoped research would show that what goes on in schools and classrooms does account for some of the variance in student achievement. The result is that there are some instructional behaviors that are more frequently associated with high gains in student achievement than other instructional behaviors. These behaviors make up the executive approach to teaching. (Fenstermacher & Soltis, 1986)

Texas attempted to incorporate this information when it developed the TTAS. The TTAS has four domains: instructional strategies, classroom management, presentation of subject matter, and the learning environment. The four domains in which the teachers are evaluated are interrelated.

Because successful classroom managers maximize the time that their students spend engaged in academic
tasks, they also maximize their students opportunities to learn academic context, and this shows up in superior performance on achievement tests (Brophy, 1979; Fisher, Berliner, Filby, Marliaue, Cohen & Dishaw, 1980; Good, 1979; Rosenshine & Berliner, 1978). [Brophy, J., 1982]

A classroom which is efficient and has a good learning environment requires organization. The teacher must organize, plan, and schedule the day's activities. The room will be divided into areas and the necessary equipment will be present in easy-to-reach places. Traffic patterns will be considered and the room will be designed to allow for quick and smooth transitions.

To an untrained observer, the classroom seems to work automatically, without much teacher effort devoted to classroom management. Classroom research has established, however, that such well-functioning classrooms do not just happen. Instead, they result from consistent teacher efforts to create, maintain, and (occasionally) restore conditions that foster effective learning. (Brophy, 1982)

Jacob S. Kounin did research for his book *Discipline and Group Management in Classrooms*, (1970) by watching videotapes of classrooms, and he studied the methods the teachers used to deal with student disruption and misbehavior. Kounin and his colleagues "found no systematic differences at all in methods of dealing with student misconduct. Good classroom managers were not notably different from poor classroom managers when responding to student misconduct" (Brophy, 1982). Kounin then began to look at how teachers deal with preventing misbehavior. Effective classroom teachers exhibited certain behaviors which the less effective classroom teacher did not exhibit.
Some of these dimensions of teacher behaviors that made a difference in the behavior of pupils were, as we termed them: withitness (demonstrating that he knew what was going on); overlapping (attending to two issues simultaneously); transition smoothness (absence of dangles, flip flops, and thrusts); and programming for learning-related variety seatwork. (Kounin, 1970)

In order to understand how these techniques work and relate to the TTAS, it is necessary to understand exactly what is meant by these terms. "Withitness" is when the teacher lets the class know by his behavior that he knows exactly what is going on every minute. "Withitness" implies that the teacher "has the proverbial 'eyes in back of her head'" (Kounin, 1970). This idea is found in Domain II, Criterion 5, indicator b on the TTAS (See Appendix).

"Overlapping' refers to what the teacher does when he has two matters to deal with at the same time" (Kounin, 1970). Is the teacher able to monitor students, answer a student's question, and attend to an office direction brought into the room by a student? "Overlapping" is important so that the flow of the classroom is not interrupted whenever the teacher is interrupted. This is monitored in Domain II, Criterion 4, indicator d (See Appendix).

"Transition smoothness" enables the teacher to keep the students engaged and prevents wasting time when students change from one activity to another activity. An effective teacher has smooth transitions which are identified by the absence of dangles, flip-flops, and thrusts.

A dangle occurs when a teacher is in the beginning or the middle of an activity and just stops and jumps to something else.
This interruption usually leaves the students confused and wondering what to do.

Dangles could occur at transition points. An example: The Rockets just completed reading a story at the reading circle. The teacher then got up and started walking to the blackboard, saying, "Now, let's look at these arithmetic problems over there on the blackboard." Halfway to the blackboard he stopped, turned around, walked to his desk and started to look at some papers there. After ten seconds at his desk, he returned to the problems on the blackboard. Dangles could also occur during an ongoing recitation. An example: The teacher is engaged in checking the children's previous seatwork. Children are taking turns reading their answers to the arithmetic problems. The teacher said "that's right" after Jimmy finished reading his answer to the third problem. He then looked around and said, "All right, Mary, read your answer to the fourth problem." As Mary was getting up, the teacher looked around the room, and said, "My now, let's see, Suzanne isn't here, is she? Does anyone know why Suzanne is absent today?". (Kounin, 1970)

Flip-flops also cause the students to become confused and wondering what to do. "In a flip-flop, a teacher terminates one activity, starts another, and then initiates a return to the activity that he had terminated" (Kounin, 1970).

A third type of disruption on the focus of an activity in the classroom is a thrust.

A thrust consists of a teacher's sudden "bursting in on the children's activities with an order, statement, or question in such a manner as to indicate that his own intent or desire was the only determinant of his timing and point of entry. A thrust has a clear element of suddenness as well as an absence of any observable sign of awareness or sensitivity to whether the target audience is in a state of readiness". (Kounin, 1970)
These techniques are monitored on the TTAS in Domain I, Criterion 1 and indicator b; Domain II, Criterion 3, indicators a, b, c, and e; Domain II, Criterion 4, indicators a, c, d, and e; Domain II, Criterion 5, indicators b and c; Domain III, and Criterion 6, indicator h on the TTAS (See Appendix).

Finally, variety prevents satiation: "Satiation' is defined by Kurt Lewin as the change of balance of an activity due to repetition" (Kounin, 1970). If students have a feeling of learning and of making progress, satiation is absent or occurs very slowly. Effective teachers plan varied activities so that the student's attention-span remains active. They give praise, present challenges, and encouragement. These techniques are monitored by Domain IV (See Appendix).

The focus upon group management skills is not opposed to a concern for individual children. The mastery of group management actually enables the teacher to program for individual differences and to help individual children. If there is a climate of work involvement and freedom from deviance, different groups of children may be doing different things, and the teacher is free to help individual children if she chooses. (Kounin, 1970)

This area of teacher effectiveness is monitored by Domain IV, Criterion 10, indicator c on the TTAS (See Appendix).

During the latter part of the 1970's, additional research was done which supported Kounin's findings or observations.

In a correlational study at the second and third grade level (Brophy & Evertson, 1976), and in an experimental study of instruction in first grade reading groups (Anderson, Evertson, & Brophy, 1979), indicators of withitness, overlappingness, and smoothness of lesson pacing, and transitions were associated both with better
student learning and better group management. (Brophy, 1982)

Jacob Kounin's research established the business of running a classroom is a complicated technology having to do with developing a nonsatiating learning program; programming for progress, challenge and variety in learning activities; initiating and maintaining movement in classroom tasks with smoothness and momentum; coping with more than one event simultaneously; observing and emitting feedback for many different events; directing actions at appropriate targets; maintaining a focus upon a group; and doubtless other techniques not measured in these researches. (Kounin, 1970)

Mastering these techniques will better enable a teacher to reach his teaching goals. If the teacher cannot manage a classroom effectively, very little learning can take place.

Kounin does not discuss how a teacher establishes an effective classroom. Other researchers like Brophy and Putman (1979), Good and Brophy (1978, 1980), Emmer, Evertson, and Anderson (1980), and Berliner (1984) address this question. Brophy, Putman, and Good found that an effective classroom begins with preparation and planning before school begins. The teacher must decide how to arrange the room, store the equipment, and plan for smooth traffic flows.

Emmer and Evertson found that rules and procedures were important in establishing an effective classroom. They even suggest the need to practice rules and procedures to resolve ambiguities. Some of their research made it clear that the seemingly automatic smooth-functioning that was observable throughout most of the
school year in the classrooms of successful managers results from a great deal of preparation and organization at the beginning of the year. A great deal of classroom time is spent in the early weeks introducing rules and procedures. Room arrangement, materials storage, and other physical aspects had been prepared in advance. On the first day and during the first week, special attention was given to matters of greatest concern to the students (such as information about the teacher and their classmates, review of the daily schedule, description of times and practices for lunch, and recess, where to put personal materials, access to the lavatory, when and where to drink). Effective managers not only told the students what they expected them to do, but personally modeled the correct procedures for them, took time to answer questions, and, where necessary, allowed time for practice of the procedures with feedback as needed. Key procedures and routines were taught to the students during more or less formal lessons, just as academic content is taught. (Brophy, 1982)

Effective teachers have clear goals for their students, stress teaching students what to do and how to do it, arrange the room so that all students can face the place where most activity occurs, monitor, have routines, return papers immediately with comments, hold students accountable, are sure activities have clear beginnings and endings, use variety, have smooth transition, are consistent in their expectations, keep students engaged, and so have effective classrooms where students' learning rates were good.

The research on effective teaching practices appears to be common information. "The temptation is to say, 'Doesn't everybody know that?' The answer is that everybody may know it to varying degrees, but everybody isn't practicing it (Billups & Rauth, 1984). Students' disruptions cut into instruction time and prevent teachers from teaching. "Effective teachers prevent or discourage behavior
problems before they occur, and the maintenance of high levels of student work involvement is the key to warding off misbehavior" (Billups & Rauth, 1984).

The TTAS is an instrument which is research-based. It does provide a way to measure teacher effectiveness when "teacher effectiveness refers to the ability of the classroom teacher to produce higher than predicted (student) gains (Good, 1979). The TTAS was selected for this study since it is research-based, since the State of Texas trained all of the appraisers, and since all classroom teachers in Texas were appraised during the 86-87 school year with this instrument.
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CHAPTER III

METHODS AND PROCEDURES OF THE STUDY

Description of the Population

The 100 subjects in this study who completed the Temperament Inventory were comprised of 48 teachers rated most effective and 52 teachers rated least effective on the TTAS. This sample of 100 teachers was further divided into several sub-groupings: 83 females and 17 males, 50 elementary teachers and 50 secondary teachers, 79 regular education teachers and 21 special education teachers. The high number of special education teachers was due to the fact that 1 of the 2 secondary schools used in the study served special education students exclusively. The secondary teachers represented 7 different subject areas which were: English, math, science, foreign language, history, industrial arts, and art.

This sample was drawn from 3 elementary schools and 2 secondary schools. The researcher elected to control the variable of level taught (elementary and secondary teachers) in order to have a basis for comparison, but could not control for the other variables due to randomization.

Procedures for Conducting the Study

The researcher went to five schools during April and May of the 1986 and 1987 school year in order to obtain teachers to participate in this study. Each building principal distributed the Temperament Inventory during a faculty meeting and requested that
the teachers fill it out at that time. The researcher explained that
the purpose of the study was to determine if there was a
relationship between teacher temperament and sex, the level taught,
the area taught, and the subject taught. The researcher elected not
to discuss the possible relationship between the teachers'
temperaments and their effectiveness in the classrooms since that
point might inhibit some teachers' participation in the study.

The teachers completed the inventory and returned it to the
principal. The principal coded each survey with M or L to indicate
the most effective or the least effective teacher, respectively, as
measured by the TTAS. Teachers who were rated above satisfactory
on the TTAS were marked M; while teachers who were rated
satisfactory or below expectations or unsatisfactory were marked L.
One hundred eighty surveys were handed out. The researcher, before
scoring the surveys, randomly selected 50 elementary and 50
secondary teachers' surveys to be used in this study. The researcher
wanted an equal number of elementary and secondary teachers for
comparison. The other variables were not controlled due to
randomization. A two-way analysis of variance was used to test the
hypotheses. The results were shown in tabular form.

**Scoring Procedures**

The researcher scored each *Temperament Inventory* using the
scoring templates which came with the survey. One hundred surveys
were scored. Each *Temperament Inventory* yielded four scores: one
for sanguine, one for phlegmatic, one for choleric and one for
melancholy. The researcher obtained the raw score by counting the
number of responses for that temperament. The scoring template contained a chart to convert the raw score to a percentile score. The answer sheet had space for four percentile scores, the highest one being the dominant temperament for that individual. The Temperament Inventory does retain Eysneck's original four-temperament scheme (his four-category explanation is superior to any other) and also has the capacity to score each individual on each of the four temperament scales separately. Thus, while the Eysneck Personality Inventory would place a person, say in the neurotic introvert (melancholic) category but would provide no more information about him than that. The Temperament Inventory would allow one to observe his scores on the other three categories of temperament as well. This provides more information for understanding individual personalities. (Cruise, et al., 1980)

The second appraisal of the TTAS was completed by the last of April in the five schools involved in this study. The administrators had scored the appraisals and knew the ratings of each of the teachers prior to the Temperament Inventory being given to the teachers.

Procedures for Analysis of Data

This study was designed to determine if there is a relationship between the teacher's temperament and his effectiveness in the classroom. It was also designed to determine if there is a relationship between the teacher's temperament and the sex, the level taught, the area taught, and the subject taught.
The following research hypotheses were tested.

1. There is no significant relationship between a teacher's temperament as measured by the Temperament Inventory and his effectiveness in the classroom.

2. There is no significant relationship between a teacher's temperament as measured by the Temperament Inventory and the sex of the teacher.

3. There is no significant relationship between a teacher's temperament as measured by the Temperament Inventory and the level taught.

4. There is no significant relationship between a teacher's temperament as measured by the Temperament Inventory and the area taught.

5. There is no significant relationship between a teacher's temperament as measured by the Temperament Inventory and the subject taught.

The statistical procedure used to determine the acceptance or rejection of the hypotheses was a two-way analysis of variance. An F-ratio was used to test for significance at the 0.1 level. The 0.1 value was chosen instead of .05 or .01 because, according to R. Kirk in his book, Experimental Design

in research situations that do not involve life or death, type I errors may be less costly than type II errors. Type II errors may discontinue a promising line of research whereas type I errors would lead to further exploration into a blind alley. Faced with these two alternatives many experimenters would set the level of significance as high as 0.2, preferring to make a type I error rather than a type II error. (Kirk,1982)
A two-way analysis of variance was used to compare the groups. In this study the independent variables were the TTAS ratings (with the two levels of most or least effective), levels taught (elementary or secondary), areas taught (special education or regular education) and the subjects taught (English, math, science, foreign language industrial arts, and art). The dependent variable was the teacher's temperament.

The two-way ANOVA answered two questions. The questions involved the overall row means and the overall column means. To answer the first question, the ANOVA compared the row means to see if there was any significant differences. If significant differences were found to exist between these means, there would be a significant main effect of the row variable. The second question involved a comparison of the column means to see whether there were significant differences. If so, the main effect of the column variable would be significant.

These questions concerned the main effects of the two factors. It is indeed identical to the t-test but is a better procedure for two reasons.

(1) The two-way ANOVA is more parsimonious; that is, it answers the same question more quickly and with less computation.
(2) The two-way ANOVA is more powerful; that is, it is more sensitive to differences among the groups that are being compared and may pick up significant differences which would remain undetected by a t-test. (Huck, et al., 1974).
The statistical analyses are presented in tabular form and from the results conclusions are drawn, educational implications are stated, and recommendations for further study are made.
CHAPTER BIBLIOGRAPHY


CHAPTER IV

PRESENTATION OF THE FINDINGS

The problem of this study was to determine if there was a relationship between the teacher's temperament as determined by the Temperament Inventory and his effectiveness in the classroom as measured by the Texas Teacher Appraisal System. The population of teachers is divided by sex, by the level they teach, by the area they teach (special or regular education), by the subject they teach and by their temperament. The Temperament Inventory was administered to each teacher and the descriptive statistics are given in Table 1. These statistics include the mean, the standard deviation, and the number of teachers determined to have each temperament.

Table 1

The Dominant Temperaments of One Hundred Teachers

<table>
<thead>
<tr>
<th>Variable</th>
<th>Mean</th>
<th>Standard Deviation</th>
<th>N</th>
</tr>
</thead>
<tbody>
<tr>
<td>Phlegmatic</td>
<td>88.655</td>
<td>9.987</td>
<td>29</td>
</tr>
<tr>
<td>Sanguine</td>
<td>83.733</td>
<td>10.264</td>
<td>15</td>
</tr>
<tr>
<td>Choleric</td>
<td>87.000</td>
<td>8.246</td>
<td>41</td>
</tr>
<tr>
<td>Melancholy</td>
<td>77.267</td>
<td>9.801</td>
<td>15</td>
</tr>
</tbody>
</table>
The mean was 88.655 and the standard deviation was 9.987 for the twenty-nine teachers who were determined to have the phlegmatic temperament. The mean was 83.733 and the standard deviation was 10.264 for the fifteen teachers who were determined to have the sanguine temperament. The mean was 87.000 and the standard deviation was 8.246 for the forty-one teachers who were determined to have the choleric temperament. Lastly, the mean was 77.267 and the standard deviation was 9.801 for the fifteen teachers who were determined to have the melancholy temperament.

Testing the Hypotheses

The results of the two-way ANOVA are presented in the following tables. The asterisk (*) indicates the significance at a value of $p > 0.1$ for this study. Tables 2-17 give the variations, the sum of squares, degrees of freedom, mean squares and the value of $\Lambda$ for the four temperaments. Table 2 shows the main effects of the TTAS ratings and the teachers' sex within the phlegmatic temperament. The main effects of the TTAS ratings and the teachers' sex are not significant. The $\Lambda$ value for the TTAS ratings is 0.978 and the $\Lambda$ value for the teachers' sex is 0.001.
Table 2

Two-Way Analysis of Variance by Phlegmatic Temperament, TTAS Rating and Sex

<table>
<thead>
<tr>
<th>Source of Variation</th>
<th>Sum of Squares</th>
<th>df</th>
<th>Mean Squares</th>
<th>$E$</th>
</tr>
</thead>
<tbody>
<tr>
<td>TTAS Rating</td>
<td>104.5</td>
<td>1</td>
<td>104.511</td>
<td>0.978</td>
</tr>
<tr>
<td>Sex</td>
<td>0.152</td>
<td>1</td>
<td>0.152</td>
<td>0.001</td>
</tr>
</tbody>
</table>

The phlegmatic temperament does not have a significant relationship to the TTAS rating or to the teacher's sex.

Table 3 shows the main effects of the TTAS ratings and the teachers' sex within the sanguine temperament. The main effects of the TTAS ratings and the teachers' sex are significant. The $E$ value for the TTAS ratings is 3.650 and the $E$ value for the teachers' sex is 2.681.

Table 3

Two-Way Analysis of Variance by Sanguine Temperament, TTAS Rating and Sex

<table>
<thead>
<tr>
<th>Source of Variation</th>
<th>Sum of Squares</th>
<th>df</th>
<th>Mean Squares</th>
<th>$E$</th>
</tr>
</thead>
<tbody>
<tr>
<td>TTAS Rating</td>
<td>317.625</td>
<td>1</td>
<td>317.625</td>
<td>3.650*</td>
</tr>
<tr>
<td>Sex</td>
<td>233.357</td>
<td>1</td>
<td>233.357</td>
<td>2.681*</td>
</tr>
</tbody>
</table>

*p > 0.1
The sanguine temperament does have a significant relationship to the TTAS rating and to the teacher's sex. Teachers with the sanguine temperament are the most effective teachers and there is a lower percentage of female and male teachers with the sanguine temperament.

Table 4 shows the main effects of the TTAS ratings and the teachers' sex within the choleric temperament. The main effect of the TTAS ratings is not significant. The main effect of the teachers' sex is significant. The $E$ value for the TTAS ratings is 0.395 and the $E$ value for the teachers' sex is 2.209.

Table 4
Two-Way Analysis of Variance by Choleric Temperament, TTAS Rating and Sex

<table>
<thead>
<tr>
<th>Source of Variation</th>
<th>Sum of Squares</th>
<th>df</th>
<th>Mean Squares</th>
<th>$E$</th>
</tr>
</thead>
<tbody>
<tr>
<td>TTAS Rating</td>
<td>78.720</td>
<td>1</td>
<td>78.720</td>
<td>0.395</td>
</tr>
<tr>
<td>Sex</td>
<td>440.381</td>
<td>1</td>
<td>440.381</td>
<td>2.209*</td>
</tr>
</tbody>
</table>

*p > 0.1

The choleric temperament does have a significant relationship to the teacher's sex. There is higher percentage of female and male teachers with the choleric temperament.

Table 5 shows the main effects of the TTAS ratings and the teachers' sex within the melancholy temperament. The main effects of the TTAS ratings and the teachers' sex are not significant. The $E$
value for the TTAS ratings is 1.202 and the $E$ value for the teachers' sex is 1.437.

Table 5

Two-Way Analysis of Variance by Melancholy Temperament, TTAS Rating and Sex

<table>
<thead>
<tr>
<th>Source of Variation</th>
<th>Sum of Squares</th>
<th>df</th>
<th>Mean Squares</th>
<th>$E$</th>
</tr>
</thead>
<tbody>
<tr>
<td>TTAS Rating</td>
<td>115.006</td>
<td>1</td>
<td>115.006</td>
<td>1.202</td>
</tr>
<tr>
<td>Sex</td>
<td>137.524</td>
<td>1</td>
<td>137.524</td>
<td>1.437</td>
</tr>
</tbody>
</table>

The melancholy temperament does not have a significant relationship to the TTAS rating or to the teacher's sex. Table 6 shows the main effects of the TTAS ratings and the levels taught (elementary or secondary) within the phlegmatic temperament. The main effects of the TTAS ratings and the levels taught are not significant. The $E$ value for the TTAS ratings is 1.173 and the $E$ value for the levels taught is 0.380.
Table 6

**Two-Way Analysis of Variance by Phlegmatic Temperament, TTAS Rating and Level Taught**

<table>
<thead>
<tr>
<th>Source of Variation</th>
<th>Sum of Squares</th>
<th>df</th>
<th>Mean Squares</th>
<th>E</th>
</tr>
</thead>
<tbody>
<tr>
<td>TTAS Rating</td>
<td>123.168</td>
<td>1</td>
<td>23.168</td>
<td>1.173</td>
</tr>
<tr>
<td>Level Taught</td>
<td>39.871</td>
<td>1</td>
<td>39.871</td>
<td>0.380</td>
</tr>
</tbody>
</table>

The phlegmatic temperament does not have a significant relationship to the TTAS rating or to the level taught.

Table 7 shows the main effects of the TTAS ratings and the levels taught (elementary or secondary) within the sanguine temperament. The main effect of the TTAS ratings is significant. The main effect of the levels taught is not significant. The E value for the TTAS ratings is 2.380 and the E value for the levels taught is 0.004.

Table 7

**Two-Way Analysis of Variance by Sanguine Temperament, TTAS Rating and Level Taught**

<table>
<thead>
<tr>
<th>Source of Variation</th>
<th>Sum of Squares</th>
<th>df</th>
<th>Mean Squares</th>
<th>E</th>
</tr>
</thead>
<tbody>
<tr>
<td>TTAS Rating</td>
<td>197.466</td>
<td>1</td>
<td>197.466</td>
<td>2.380*</td>
</tr>
<tr>
<td>Level Taught</td>
<td>0.309</td>
<td>1</td>
<td>0.309</td>
<td>0.004</td>
</tr>
</tbody>
</table>

*p>0.1
The sanguine temperament does have a significant relationship to the TTAS rating. Teachers with the sanguine temperament are the most effective teachers.

Table 8 shows the main effects of the TTAS ratings and the levels taught (elementary or secondary) within the choleric temperament. The main effect of the TTAS ratings is not significant. The main effect of the levels taught is significant. The $E$ value for the TTAS ratings is 0.113 and the $E$ value for the levels taught is 2.132.

Table 8

Two-Way Analysis of Variance by Choleric Temperament, TTAS Rating and Level Taught

<table>
<thead>
<tr>
<th>Source of Variation</th>
<th>Sum of Squares</th>
<th>df</th>
<th>Mean Squares</th>
<th>$E$</th>
</tr>
</thead>
<tbody>
<tr>
<td>TTAS Rating</td>
<td>7.351</td>
<td>1</td>
<td>7.351</td>
<td>0.113</td>
</tr>
<tr>
<td>Level Taught</td>
<td>138.117</td>
<td>1</td>
<td>138.117</td>
<td>2.132*</td>
</tr>
</tbody>
</table>

* $p > 0.1$

The choleric temperament does have a significant relationship to the level taught. A higher percentage of elementary and secondary teachers have the choleric temperament.

Table 9 shows the main effects of the TTAS ratings and the levels taught (elementary or secondary) within the melancholy temperament. The main effects of the TTAS ratings and the levels taught are not significant. The $E$ value for the TTAS ratings is 0.716 and the $E$ value for the levels taught is 1.792.
Table 9

Two-Way Analysis of Variance by Melancholy Temperament, TTAS Rating and Level Taught

<table>
<thead>
<tr>
<th>Source of Variation</th>
<th>Sum of Squares</th>
<th>df</th>
<th>Mean Squares</th>
<th>£</th>
</tr>
</thead>
<tbody>
<tr>
<td>TTAS Rating</td>
<td>70.700</td>
<td>1</td>
<td>70.700</td>
<td>0.716</td>
</tr>
<tr>
<td>Level Taught</td>
<td>176.876</td>
<td>1</td>
<td>176.876</td>
<td>1.792</td>
</tr>
</tbody>
</table>

The melancholy temperament does not have a significant relationship to the TTAS rating or to the level taught.

Table 10 shows the main effects of the TTAS ratings and the areas taught (special or regular education) within the phlegmatic temperament. The main effects of the TTAS ratings and the areas taught are not significant. The £ value for the TTAS ratings is 1.248 and the £ value for the areas taught is 0.295.
Table 10

Two-Way Analysis of Variance by Phlegmatic Temperament.

TTAS Rating and Area Taught

<table>
<thead>
<tr>
<th>Source of Variation</th>
<th>Sum of Squares</th>
<th>df</th>
<th>Mean Squares</th>
<th>E</th>
</tr>
</thead>
<tbody>
<tr>
<td>TTAS Rating</td>
<td>132.538</td>
<td>1</td>
<td>132.538</td>
<td>1.248</td>
</tr>
<tr>
<td>Area Taught</td>
<td>31.304</td>
<td>1</td>
<td>31.304</td>
<td>0.295</td>
</tr>
</tbody>
</table>

The phlegmatic temperament does not have a significant relationship to the TTAS rating or to the area taught.

Table 11 shows the main effects of the TTAS ratings and the areas taught (special or regular education) within the sanguine temperament. The main effect of the TTAS ratings is significant. The main effect of the areas taught is not significant. The $E$ value for the TTAS ratings is 2.028 and the $E$ value for the areas taught is 0.113.

Table 11

Two-Way Analysis of Variance by Sanguine Temperament.

TTAS Ratings and Area Taught

<table>
<thead>
<tr>
<th>Source of Variation</th>
<th>Sum of Squares</th>
<th>df</th>
<th>Mean Squares</th>
<th>E</th>
</tr>
</thead>
<tbody>
<tr>
<td>TTAS Rating</td>
<td>182.008</td>
<td>1</td>
<td>182.008</td>
<td>2.028*</td>
</tr>
<tr>
<td>Area Taught</td>
<td>10.156</td>
<td>1</td>
<td>10.156</td>
<td>0.113</td>
</tr>
</tbody>
</table>

* $p > 0.1$
The sanguine temperament does have a significant relationship to the TTAS rating. Teachers with the sanguine temperament are the most effective teachers.

Table 12 shows the main effects of the TTAS ratings and the areas taught (special or regular education) within the choleric temperament. The main effects of the TTAS ratings and the areas taught are not significant. The $E$ value for the TTAS ratings is 0.041 and the $E$ value for the areas taught is 0.012.

Table 12

**Two-Way Analysis of Variance by Choleric Temperament.**

<table>
<thead>
<tr>
<th>Sources of Variation</th>
<th>Sum of Squares</th>
<th>df</th>
<th>Mean Squares</th>
<th>$E$</th>
</tr>
</thead>
<tbody>
<tr>
<td>TTAS Rating</td>
<td>2.995</td>
<td>1</td>
<td>2.995</td>
<td>0.041</td>
</tr>
<tr>
<td>Area Taught</td>
<td>0.879</td>
<td>1</td>
<td>0.879</td>
<td>0.012</td>
</tr>
</tbody>
</table>

The choleric temperament does not have a significant relationship to the TTAS rating or to the area taught.

Table 13 shows the main effects of the TTAS ratings and the areas taught (special or regular education) within the melancholy temperament. The main effects of the TTAS ratings and the areas taught are not significant. The $E$ value for the TTAS ratings is 0.515 and the $E$ value for the areas taught is 0.015.
Table 13

Two-Way Analysis of Variance by Melancholy Temperament.

TTAS Rating and Area Taught

<table>
<thead>
<tr>
<th>Source of Variation</th>
<th>Sum of Squares</th>
<th>df</th>
<th>Mean Squares</th>
<th>£</th>
</tr>
</thead>
<tbody>
<tr>
<td>TTAS Rating</td>
<td>59.692</td>
<td>1</td>
<td>59.692</td>
<td>0.515</td>
</tr>
<tr>
<td>Area Taught</td>
<td>1.732</td>
<td>1</td>
<td>1.732</td>
<td>0.015</td>
</tr>
</tbody>
</table>

The melancholy temperament does not have a significant relationship to the TTAS rating or to the area taught.

Table 14 shows the main effects of the TTAS ratings and the subjects taught for secondary teachers within the phlegmatic temperament. The main effects of the TTAS ratings and the subjects taught are not significant. The £ value for the TTAS ratings is 0.128 and the £ value for the subjects taught is 0.521.

Table 14

Two-Way Analysis of Variance by Phlegmatic Temperament.

TTAS Rating and Subject Taught

<table>
<thead>
<tr>
<th>Source of Variation</th>
<th>Sum of Squares</th>
<th>df</th>
<th>Mean Squares</th>
<th>£</th>
</tr>
</thead>
<tbody>
<tr>
<td>TTAS Rating</td>
<td>10.815</td>
<td>1</td>
<td>10.815</td>
<td>0.128</td>
</tr>
<tr>
<td>Subject Taught</td>
<td>145.036</td>
<td>5</td>
<td>25.817</td>
<td>0.521</td>
</tr>
</tbody>
</table>
The phlegmatic temperament does not have a significant relationship to the TTAS rating or to the subject taught.

Table 15 shows the main effects of the TTAS ratings and the subjects taught for secondary teachers within the sanguine temperament. The main effect of the TTAS ratings is significant. The main effect of the subjects taught is not significant. The $E$ value for the TTAS ratings is 5.451 and the $E$ value for the subjects taught is 1.885.

Table 15

Two-Way Analysis of Variance by Sanguine Temperament.

<table>
<thead>
<tr>
<th>Source of Variation</th>
<th>Sum of Squares</th>
<th>df</th>
<th>Mean Squares</th>
<th>$E$</th>
</tr>
</thead>
<tbody>
<tr>
<td>TTAS Rating</td>
<td>252.104</td>
<td>1</td>
<td>252.104</td>
<td>5.451*</td>
</tr>
<tr>
<td>Subject Taught</td>
<td>435.970</td>
<td>5</td>
<td>87.194</td>
<td>1.885</td>
</tr>
</tbody>
</table>

$p > 0.1$

The sanguine temperament does have a significant relationship to the TTAS rating. Teachers with the sanguine temperament are the most effective teachers.

Table 16 shows the main effects of the TTAS ratings and the subjects taught for secondary teachers within the choleric temperament. The main effect of the TTAS ratings is not significant. The main effect of the subjects taught is significant. The $E$ value for the TTAS ratings is 0.103 and the $E$ value for the subjects is 0.846.
Table 16
Two-Way Analysis of Variance by Choleric Temperament.
TTAS Rating and Subject Taught

<table>
<thead>
<tr>
<th>Source of Variation</th>
<th>Sum of Squares</th>
<th>df</th>
<th>Mean Squares</th>
<th>£</th>
</tr>
</thead>
<tbody>
<tr>
<td>TTAS Rating</td>
<td>7.387</td>
<td>1</td>
<td>7.387</td>
<td>0.103</td>
</tr>
<tr>
<td>Subject Taught</td>
<td>304.125</td>
<td>5</td>
<td>60.825</td>
<td>0.846*</td>
</tr>
</tbody>
</table>

*P > 0.1

The choleric temperament does have a significant relationship to the subject taught. The highest percentage of the secondary teachers in the 7 subject areas have the choleric temperament.

Table 17 shows the main effects of the TTAS ratings and the subjects taught for secondary teachers within the melancholy temperament. The main effect of the TTAS ratings is not significant. The main effect of the subjects taught is significant. The £ value for the TTAS ratings is 0.049 and the £ value for the subjects taught is 2.362.
Table 17

Two-Way Analysis of Variance by Melancholy Temperament.

TTAS Rating and Subject Taught

<table>
<thead>
<tr>
<th>Source of Variation</th>
<th>Sum of Squares</th>
<th>df</th>
<th>Mean Squares</th>
<th>E</th>
</tr>
</thead>
<tbody>
<tr>
<td>TTAS Rating</td>
<td>4.033</td>
<td>1</td>
<td>4.033</td>
<td>0.049</td>
</tr>
<tr>
<td>Subject Taught</td>
<td>587.599</td>
<td>3</td>
<td>195.866</td>
<td>2.362*</td>
</tr>
</tbody>
</table>

*p>0.1

The melancholy temperament does have a significant relationship to the subject taught for secondary teachers. The lowest percentage of the secondary teachers in the 7 subject areas have the melancholy temperament.

The ANOVA did not yield any significant results within the phlegmatic temperament. The ANOVA (Table 3) yielded significant results with the TTAS ratings and sex within the sanguine temperament. The ANOVA (Tables 7, 11 & 15) yielded significant results with the TTAS ratings within the sanguine temperament. These results indicate that teachers with the sanguine temperament are the most effective teachers and there is a lower percentage of female and male teachers with the sanguine temperament. The ANOVA (Table 4) yielded significant results with sex, the ANOVA (Table 8) yielded significant results with the levels taught and the ANOVA (Table 16) yielded significant results with the subjects taught within the choleric temperament. These results indicate that there is a higher percentage of female and male teachers with the
choleric temperament, a higher percentage of elementary and secondary teachers with the choleric temperament and the highest percentage of secondary teachers in the 7 subject areas with the choleric temperament. Lastly, the ANOVA (Table 17) yielded significant results with the subject taught within the melancholy temperament. This result indicates that the lowest percentage of the secondary teachers in the 7 subject areas have the melancholy temperament.

The following research hypotheses were tested.

1. There is no significant relationship between the teacher's temperament as measured by the Temperament Inventory and his effectiveness in the classroom as measured by the TTAS. The ANOVA within the sanguine temperament indicates significant results as shown in Tables 3, 7, 11 and 15, and so the hypothesis is rejected. Therefore, there is a significant relationship between the sanguine temperament and classroom effectiveness. An analysis of the relationship reveals that sanguine teachers were rated most effective on the TTAS.

2. There is no significant relationship between the teacher's temperament as measured by the Temperament Inventory and sex. The ANOVA within the sanguine and choleric temperaments indicates significant results as shown in Tables 3 and 4, and so the hypothesis is rejected. Therefore, there is a significant relationship among the sanguine and choleric temperaments and sex. An analysis of the relationship reveals that the highest percentages of female and male teachers had the choleric temperament while the lowest percentages of female and male teachers had the sanguine temperament.
3. There is no significant relationship between the teacher's temperament as measured by the Temperament Inventory and the fact that he teaches elementary school or high school students. The ANOVA within the choleric temperament indicates significant results as shown in Table 8 and so the hypothesis is rejected. Therefore, there is a significant relationship between the choleric temperament and the level taught. An analysis of the relationship reveals that a higher percentage of elementary and secondary teachers had the choleric temperament.

4. There is no significant relationship between the teacher's temperament as measured by the Temperament Inventory and the fact that he teaches special education or regular education students. No significance was found and the null hypothesis is retained.

5. There is no significant relationship between the teacher's temperament as measured by the Temperament Inventory and the subjects he teaches. The ANOVA within the choleric and melancholy temperaments indicate significant results as shown in Tables 15 and 17, and so the hypothesis is rejected. Therefore, there is a significant relationship among the choleric and melancholy temperaments and the subject taught. An analysis of the relationship reveals that the highest percentage of the secondary teachers in the 7 subject areas had the choleric temperament and the lowest percentage of the secondary teachers in the 7 subject areas had the melancholy temperament.
CHAPTER V
SUMMARY, FINDINGS, CONCLUSIONS, IMPLICATIONS AND RECOMMENDATIONS

Summary

The first purpose of this study was to determine the temperaments of one hundred teachers who were rated most effective or least effective by the Texas Teacher Appraisal System, and to ascertain the relationships between the teachers' temperaments and their effectiveness in the classroom. The second purpose was to determine the relationships of the teachers' temperaments to sex, to the level taught, to the area taught (special education or regular education), and to the subject taught.

It was hypothesized that

(1) there is no significant relationship between the teacher's temperament as measured by the Temperament Inventory and his effectiveness in the classroom as measured by the TTAS;

(2) there is no significant relationship between the teacher's temperament as measured by the Temperament Inventory and sex;

(3) there is no significant relationship between the teacher's temperament as measured by the Temperament Inventory and the fact that he teaches elementary school students or high school students;

(4) there is no significant relationship in the teacher's temperament as measured by the Temperament Inventory and the fact that he teaches special education or regular education students;
(5) there is no significant relationship between the teacher's temperament as measured by the Temperament Inventory and the subject he teaches.

The 100 subjects in this study who completed the Temperament Inventory were comprised of 48 teachers rated most effective and 52 teachers rated least effective on the TTAS. This sample of 100 teachers was further divided into several sub-groupings: 83 females and 17 males, 50 elementary teachers and 50 secondary teachers, 79 regular education teachers and 21 special education teachers. The high number of special education teachers was due to the fact that 1 of the 2 secondary schools used in the study served special education students exclusively. The secondary teachers represented 7 different subject areas which were: English, math, science, foreign language, history, industrial arts, and art.

This sample was drawn from 3 elementary schools and 2 secondary schools. The researcher elected to control the variable of level taught (elementary and secondary teachers) in order to have a basis for comparison, but could not control for the other variables due to randomization.

The teachers were appraised by the school administrators and the researcher administered the Temperament Inventory to the teachers in their schools during April and May of the 1986 and 1987 school year. The teachers gave the researcher their sex, the level taught, the area taught, and the subject taught. The building principal marked each inventory with M or L to indicate the most effective teacher or the least effective teacher based on the TTAS. The data were subjected to statistical processes.
Descriptive statistics were used to describe the data and a two-way analysis of variance was used to test the data. A probability of 0.1 was established as the level of significance.

Findings

Each teacher agreed to take the Temperament Inventory which determined his dominant temperament. Out of this group of 100 teachers, 29 were determined to be phlegmatic, 15 were determined to be sanguine, 41 were determined to be choleric, and 15 were determined to be melancholy.

In the sanguine group, 53% of these teachers were rated as most effective by the TTAS, while 47% were rated as least effective. Likewise, 53% of the teachers determined to be melancholy were rated as most effective by the TTAS, while 47% were rated as least effective. The statistical analyses indicated that there were significant relationships between teachers' temperaments and their effectiveness in the classrooms within the sanguine temperament (Tables 3, 7, 11 and 15). However, the ANOVA did not indicate any significance between the teachers' temperaments and their effectiveness in the classrooms within the melancholy temperament.

For the purposes of this study, group membership was used for the TTAS ratings (either most effective or least effective) while the actual raw scores were used from the Temperament Inventory to determine teacher temperaments. Teachers who were dominantly sanguine had consistently higher raw scores within the sanguine range on the Temperament Inventory than the melancholy teachers had within the melancholy range. This would account for the lack of statistical significance within the melancholy temperament.
Of the 41 teachers who were determined to have the choleric temperament, 51% were rated as most effective by the TTAS, and 49% of these teachers were rated as least effective. Of the 29 teachers who were determined to have the phlegmatic temperament, 38% were rated as most effective by the TTAS while 62% were rated as least effective. These findings seem to indicate that the most effective teachers would have the sanguine or the melancholy temperaments. The least effective teachers would have the phlegmatic temperament.

The lack of statistical significance between the teachers' temperaments and their effectiveness in the classrooms within the phlegmatic temperament is probably due to the actual raw scores of this group of teachers. As individuals, they tended to have lower raw scores on the Temperament Inventory within the phlegmatic range.

Out of the group of 100 teachers who participated in this study, there were 83 females and 17 males. Of the females, 38% were determined to be choleric and 53% of the males were also determined to be choleric. Of the teachers who were determined to be phlegmatic, 28% were females and 35% were males. Of the teachers who were determined to be either sanguine or melancholy, 17% were females and 6% were males.

The statistical analyses did reveal significance between sex and the choleric temperament (Table 4). The statistical analyses also revealed significance between sex and the sanguine temperament (Table 3). These findings indicated that the highest percentages of female and male teachers had the choleric temperament while the lowest percentages of female and male teachers had the sanguine temperament.
A higher percentage of the 50 elementary teachers, 44%, and a higher percentage of the secondary teachers, 38%, were determined to be choleric. The elementary teachers, 32%, were determined to have the phlegmatic temperament while 26% of the secondary teachers were determined to have the phlegmatic temperament. Lastly, 12% of the elementary teachers and 18% of the secondary teachers were determined to have the sanguine temperament. The same percentages were also true for the melancholy temperament.

The statistical analyses did reveal significance between the level taught (elementary or secondary) and the choleric temperament (Table 8). These findings indicated that a higher percentage of elementary and secondary teachers had the choleric temperament.

In this study, there were 21 special education teachers and 79 regular education teachers. The dominant temperaments of the special education teachers were phlegmatic and choleric, followed by the sanguine temperament and the melancholy temperament. The dominant temperaments of the 79 regular education teachers were also choleric and phlegmatic. The fewest teachers had the melancholy temperament and the sanguine temperament. There was no statistical significance between the area taught and the teacher's temperament. These findings indicated that the temperaments of teachers, had no effect on the area (special education or regular education) they taught.

This study involved 50 secondary teachers. Fourteen of these teachers listed special education as their subject area. Since this variable was dealt with separately, only 36 secondary teachers and 7 subject areas were considered. The teachers were divided as follows: 18
English teachers, 5 math teachers, 3 science teachers, 2 foreign language teachers, 6 history teachers, 1 industrial arts teacher, and 1 art teacher.

The dominant temperament of the English teachers was 39% choleric, math teachers 40% choleric and 40% sanguine, science teachers 100% choleric, foreign language teachers 50% phlegmatic and 50% sanguine, history teachers 50% choleric and the industrial arts teacher and the art teacher were 100% phlegmatic. Fifteen of the 36 teachers were choleric and 7 teachers were melancholy.

The statistical analyses indicated significance with the subject taught within the choleric temperament (Table 16) and the melancholy temperament (Table 17). These findings indicated that the highest percentage of the secondary teachers in the 7 subject areas had the choleric temperament and the lowest percentage of the secondary teachers in the 7 subject areas had the melancholy temperament.

Conclusions

1. There is a relationship among the sanguine, melancholy, and phlegmatic temperaments and teacher effectiveness in the classroom. Teachers with the sanguine or the melancholy temperaments were most effective while teachers with the phlegmatic temperament were least effective.

2. There is a relationship among the sanguine and choleric temperaments and the teacher's sex. Most female and male teachers had the choleric temperament while fewest female and male teachers had the sanguine temperament.
3. There is a relationship between the choleric temperament and the level taught. Most of the elementary and secondary teachers had the choleric temperament.

4. There is no relationship between the teachers' temperament and area taught.

5. There is a relationship among the choleric and the melancholy temperaments and the subject taught. Most secondary teachers in the 7 subject areas had the choleric temperament and the fewest secondary teachers in the 7 subject areas had the melancholy temperament.

Implications

The findings of this study suggest two implications for public school administrators, private school administrators, teachers, and teacher training personnel. This study indicates that temperaments do play a significant part in the role of a teacher. Colleges of education should screen more carefully potential teacher education candidates in order to help predict the success and failure rate of these teachers. This screening could possibly reduce the high teacher attrition rate mentioned by Kremer-Hagon and Kurtz (1985), because the teachers' temperaments would more likely match the level and area for which they were best suited.

There is little research in the area of teacher temperaments. This study indicates that more research is needed since this evidence does imply that teacher temperaments do relate to classroom effectiveness, sex, level and the subject taught.
Recommendations for Future Study

This study, although limited to one temperament inventory and to one appraisal instrument, yielded some evidence that a teacher's temperament does affect his effectiveness in the classroom. Since there is very little research that deals with adult temperament, additional research is recommended:

1. To determine if teacher temperament could be used as a predictor on the Texas Teacher Appraisal Instrument.
2. To determine if teacher temperament could be used to predict effectiveness of female teachers.
3. To determine if teacher temperament could be used to predict effectiveness of male teachers.
4. To determine if teacher temperament could be used to predict effectiveness of teachers on specific grade levels.
5. To determine if teacher temperament could be used to predict effectiveness of teachers in specific subject areas.
6. To determine if the appraisers in Texas are following state-mandated training procedures when using the TTAS.
CHAPTER BIBLIOGRAPHY


### I. Instructional Strategies

1. Provides opportunities for students to participate actively and successfully.

   - a. varies activities
     - A/BE
     - EQ
     - COL
   - b. interacts with students
     - A/BE
     - EQ
     - COL
   - c. solicits participation
     - A/BE
     - EQ
     - COL
   - d. extends
     - A/BE
     - EQ
     - COL
   - e. provides time
     - A/BE
     - EQ
     - COL
   - f. implements at appropriate level of difficulty
     - A/BE
     - EQ
     - COL

2. Evaluates and provides feedback on student progress during instruction.

   - a. communicates expectations
     - A/BE
     - EQ
     - COL
   - b. monitors
     - A/BE
     - EQ
     - COL
   - c. solicits responses for assessment
     - A/BE
     - EQ
     - COL
   - d. reinforces
     - A/BE
     - EQ
     - COL
   - e. provides corrective feedback
     - A/BE
     - EQ
     - COL
   - f. reteaches
     - A/BE
     - EQ
     - COL

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**FOR EVALUATION RECORD**

**DOMAIN CREDIT TOTAL**

(SE credits + EQ credits)
II. Classroom Management and Organization

3. Organizes materials and students.
   - a. secures student attention 0 1 1
   - b. uses procedures/routines 0 1 1
   - c. gives administrative directions 0 1 1
   - d. uses seating/grouping 0 1 1
   - e. has materials/aids/facilities ready 0 1 1

4. Maximizes amount of time available for instruction.
   - a. begins/ends 0 1 
   - b. implements sequence of activities 0 1 
   - c. maintains pace 0 1 
   - d. maintains focus 0 1 
   - e. keeps students engaged 0 1 

5. Manages student behavior.
   - a. specifies expectations 0 1 
   - b. prevents off-task behavior 0 1 
   - c. redirects off-task behavior 0 1 
   - d. stops inappropriate behavior 0 1 
   - e. stops disruptive behavior 0 1 
   - f. applies rules 0 1 1
   - g. reinforces appropriate behavior 0 1 1

III. Presentation of Subject Matter

6. Teaches for cognitive, affective, and/or psychomotor learning and transfer.
   - a. begins with introduction 0 1 1
   - b. uses content sequence 0 1 1
   - c. relates prior/future learning 0 1 1
   - d. defines/describes 0 1 1
   - e. elaborates critical attributes 0 1 1
   - f. stresses generalization/principle/rule 0 1 1
   - g. transfers 0 1 1
   - h. closes instruction 0 1 1
### III. Presentation of Subject Matter (continued)

7. Presents information accurately and clearly.

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<td>b. uses appropriate vocabulary</td>
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<td>c. explains clearly</td>
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<td>e. clarifies misunderstanding</td>
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8. Uses acceptable communication skills.

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<td>b. pronounces correctly/clearly</td>
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<td>c. uses accurate language</td>
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<td>d. demonstrates written skills</td>
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### IV. Learning Environment


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<td>a. relates to interests</td>
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<td>b. emphasizes value/importance</td>
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<td>c. reinforces efforts</td>
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<td>d. challenges</td>
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10. Maintains supportive environment.

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<td>b. maintains courteous climate</td>
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<td>c. encourages</td>
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<td>d. praises</td>
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<td>e. establishes rapport</td>
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**V. Growth and Responsibilities**

11. Plans for and engages in professional development.
   - a. grows professionally
   - b. stays current-content
   - c. stays current-methods

12. Interacts and communicates with parents.
   - a. initiates communications
   - b. conducts conferences
   - c. reports progress
   - d. maintains confidentiality

13. Complies with policies, operating procedures, and requirements.
   - a. follows TEA requirements
   - b. follows district/campus policies/procedures
   - c. performs assigned duties
   - d. follows promotion procedures

   - a. participates in goal-setting
   - b. plans instruction
   - c. documents progress
   - d. maintains records
   - e. reports progress

**FOR EVALUATION RECORD**

**DOMAIN CREDIT TOTAL**

(SE credits + EQ credits)

**Comments:**

(The signature of the teacher indicates that he/she has reviewed and received a copy of this record.)

**Teacher Signature/Date Received**

**Appraiser Signature/Date Completed**

**Date of Conference (if any)**
BIBLIOGRAPHY

BOOKS


ARTICLES


