

SOURCES AND LEVELS OF ANXIETY IN STUDENT TEACHERS

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by

Murray Larry Zuk

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ABSTRACT

The purpose of this study was to investigate the anxiety levels of Student Teachers during the student teaching year. It was also intended to identify some of the anxiety-causing concerns of student teachers and to examine the origins of these concerns.

The State-Trait theory of anxiety was used as the fundamental approach to anxiety. The anxiety levels were measured by the State-Trait Anxiety Inventory and the Teacher Anxiety Scale. The Teacher Anxiety Scale was also used to determine the most prominent anxiety-causing concerns and a questionnaire was developed to discover the origins of the concerns.

Data were collected at four times during the student teaching year from 91 student teachers at Brandon University.

The t-test was used to examine the data for differences in levels of anxiety throughout the student teaching year. A-State anxiety levels decreased significantly during the initial theoretical session and also during the initial practicum session, but not during the last half of the student teaching year. Anxiety levels as measured by the Teacher Anxiety Scale decreased significantly during the initial practicum session and also during the final half of the student teaching year. Student teachers with high levels of Trait anxiety showed a significant decrease in anxiety levels during the first practicum but low A-Trait subjects did not.

A one-way analysis of variance was used to discover relationships between anxiety levels and the following five characteristics:

Trait Anxiety, age, sex, program level and success as measured by certification recommendations. No statistical differences were found among mean scores for the characteristics of age, sex, program level and certification on either the A-State or the TCHAS. High A-Trait subjects scored significantly higher on the Teacher Anxiety Scale than did low A-Trait student teachers.

The data from the TCHAS were factor analyzed for each of the three testing sessions. Four factors were examined for each session. These factors isolated concerns for interpersonal relationships, teaching skills, ability to teach as compared to peers and satisfaction in the teaching profession.

An item analysis of the TCHAS indicated that the strongest concerns were related to supervision by the college supervisor and the school principal, lesson preparation skills, relationships with students and competence in teaching compared to other student teachers. These concerns were among the strongest throughout the year but the basic emphasis shifted from a strong concern for supervisors early in the year to a strong comparison of self to peers by the end of the year.

The most frequent origins of teacher concerns mentioned were things imagined and things observed.

Two principal conclusions were reached. First, anxiety levels are highest prior to the initial practicum and any attempts to lower anxiety levels would be best attempted at this time. Second, student teachers are mainly concerned with lesson preparation skills, their relationships with students, being evaluated and finding a job.

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Chapter 1

THE PROBLEM AREA

I. INTRODUCTION

Traditionally novice teachers have been prepared for a career in teaching by undertaking a program of studies which attempts to prepare them for the classroom. The professional training may provide some knowledge of the theory of learning, accepted methods of teaching students of different age levels and methods of evaluating student progress. The theoretical foundation is combined with a period of time allotted for a school practicum. During this time the student teacher is under supervision by a member of the teacher training institution and by a certified teacher or cooperating teacher. The faculty advisor works closely with the cooperating teacher in counselling the student teacher. The advisor has the responsibility for evaluating the practicum but usually does so only after consultation with the cooperating teacher.

The student teacher during the practicum is expected to translate the theory of professional training into practice. Usually this is done on a graduated sequential basis. Brayne summarizes the activities of student teaching:

Student Teaching involves a progressive series of activities beginning with the time the student teacher makes his first contact with the cooperating school right up to and including the assumption of full responsibility for classroom activities. The sequence of activities should be a gradual transition from dependency upon the cooperating teacher to initiative on the part of the student teacher. The time spent on each activity depends

on a number of factors, primarily the demonstrated competence of the student teacher himself, the level taught, and the type of learners (Brayne, 1974:7).

The amount of personal growth that the student teacher experiences is determined by a number of factors. Interpersonal relations between the student teacher and the supervisors seems to be one of the most frequently mentioned concerns of student teachers. Krecsy (1975:15) found a fairly strong association between success in faculty supervisor - student teacher interpersonal relationship and student teaching success. Moskowitz found that:

...differences in personality or varying viewpoints between cooperating teachers and student teachers have often led to anxieties and unprofitable experiences and may have even convinced some student teachers not to go into teaching at all (Moskowitz, 1966:114).

Marso (1971:194) suggests that the rate of transition from college classes to classroom responsibilities and resulting anxieties often cause new teachers to be more influenced by experience than by theory. Student teachers have come through a number of years of schooling where they have spent the majority of their time acquiring mastery of subject matter. Goodlad (1965:264) suggests that during this time they have had no opportunity to learn to adapt this subject matter for students in elementary and secondary schools nor to learn how to encourage inquiry into subject matter. Goodlad believes that the short professional training that the student teacher receives and the abruptness with which he must make the transition from student to teacher forces him through the demands for survival to use the most secure and familiar method of instruction. He suggests that another powerful factor forcing the student to use survival skills is the knowledge that the first teaching appointment may often depend on the

recommendations of the cooperating teacher. Thus the student teacher tends to forget the partially assimilated principles from the brief training period.

Southard (1966) found that the degree of dogmatism of the cooperating teacher and of the student teacher affects the compatibility of the dyad. Individuals who have highly similar dogmatic personalities work well together. Working dyads with extreme differences in dogmatic personalities tend to dominate one another to such an extent that the other becomes submissive and a compatible relationship tends to develop. However, the dyads between these extremes tend to be incompatible.

In summary, the degree of dogmatism between student teacher and supervisor, the interpersonal relations of the members of the dyad and the rate of transition from student to teacher are some of the factors that affect the student teacher in the student teaching session. All of these factors involve interaction between the student teacher and one of the supervisors, particularly the cooperating teacher. The ability to work with the cooperating teacher will have a bearing on the confidence with which the student teacher approaches tasks such as student discipline, lesson planning, student evaluation, etc.

Dunstan, a student teacher who had just completed his student teaching, wrote:

Student Teaching is perhaps the most rewarding and anxious period of a prospective teacher's career. It conjures fantasies of success yet it gives an insight into the agony of failure. It is a time when a student's preparations are put to the acid test and when any romantic notions of teaching are dismissed (Dunstan, 1973:30).

Preparations by a student teacher for his first student teaching session can indeed be an anxious experience. The student teacher is going as a newcomer to the school where all eyes will be upon him. The environment will be as unfamiliar as the task at hand. The security of a student task will be exchanged for a position of scrutiny at the front of the room. The student teacher can be beset with worries, problems and unanswered questions concerning the unknown. Rawlins (1970) found that beginning teachers tend to perceive that they will encounter many more problems and to a significantly greater degree than they actually encounter. The perception of these problems may lead to anxieties.

The build-up of anxiety due to the unknown adds to the general level of anxiety which each individual possesses. The magnitude of this build-up will depend upon the extent to which the student teacher perceives the situation to be threatening or dangerous and the tendency of the individual to respond to the situation (Spielberger, 1970). Festinger (1957) suggests that when these tensions build up, pressures to reduce the tensions begin to work within the individual. One would expect that the combination of these pressures and the familiarization with the unknown would lead to a reduction of student teacher anxieties over a period of time.

II. DEFINITION OF THE PROBLEM

With all the pressures placed on the student teacher, there seems to be a need to find ways to help reduce the tensions of the student teacher or to limit the extent to which they build up. When the student teacher anxieties and the sources are identified, the

practicum can be made more meaningful for the student teacher.

In recent years there has been some research into the trends in anxiety levels during the student teaching session (e.g., Campbell, 1968; Miller and Jurs, 1974). The purpose of this study was to examine the anxiety levels during the student teaching year, to examine the anxiety producing concerns during the student teaching year and to examine the relationship between these two constructs. More specifically answers to these questions have been sought:

1. How do STATE anxiety levels, as measured by the State-Trait Anxiety Inventory (STAI), fluctuate during the student teaching year?
2. Do the levels of these concerns fluctuate during the student teaching year?
3. Is there a relationship between STATE anxiety levels and the expressed concerns of student teachers?
4. What are the expressed concerns of student teachers as measured by the Teacher Anxiety Scale (TCHAS)?
5. What are the self expressed sources of these concerns?
6. Is there a relationship between TRAIT anxiety levels, as measured by the STAI and the expressed concerns of student teachers?

III. IMPORTANCE OF THE STUDY

The student teaching practicum is an extremely short period in which the student teacher must somehow bridge the gap between theory and practice. For many it is impossible to accomplish this feat in the short time allotted and as a result the teacher spends a good part of the first year as a novice teacher learning the things that should

have been learned during student teaching under the supervision of a certified teacher.

Bessai, coordinator of Graduate Studies in the University of Regina, suggests that colleges of education across Canada tend to segregate rather than integrate the theoretical and the practical elements of the course work. This leads to "all kinds of unhealthy tensions [being] generated" (Bessai and Edmonds, 1977:7).

Tennyson and Wooley (1971) found that individuals who have anxiety increases during difficult tasks can be expected to perform more efficiently if they receive instruction geared to slower increases of difficulty. All student teachers enrolled in their student teaching year receive the same amount of student teaching. This makes it virtually impossible to accommodate individual differences in student teachers and at the same time prepare all student teachers equally for the first teaching experience. When a novice teacher enters the first teaching assignment with high residual anxiety or professionally unprepared, the students are bound to suffer while the teacher attempts to make the necessary and required adjustments. If the teacher can make the adjustments efficiently, the damage to the pupils can be negligible. When the situation is known to the school administrator, it may be possible for the teacher to receive some assistance in making the adjustments. If the mental health of a teacher is ever vulnerable, the initial teaching period would surely be untenable. The mental health of a teacher is extremely important:

Most educators would agree that the teacher's 'personality' or 'mental health' (and behavior) are important in the classroom; some might consider these characteristics even more important than his knowledge of the subject matter and methods of teaching. When a teacher fails, the failure is often attributed to personality

defects, such as insufficient warmth, zeal, or sensitivity, or perhaps authoritarianism, rigidity, or permissiveness" (Coats and Thoresen, 1974:1).

Goodlad (1965:267) subscribes to the idea that student teaching is not long enough to train the student teacher to make the transition from student to teacher and recommends the residency concept be adopted in the preparation of beginning teachers. It is probably necessary, due to today's economic crisis in education, to find a way of making the existing student teaching session more meaningful by facilitating the transition as much as possible.

A positive self-concept has been found to be significantly related to success in student teaching (Passmore, 1970). Krecsy supports this and suggests that the supervisor can best facilitate the development of this self-concept by attempting to develop with the student teacher, a sound interpersonal communications channel. He suggests that this is necessary if the supervisor is to ... "aid the student teacher in investigating his personal and professional role, in identifying areas of difficulties, and in developing possible solutions to these" (Krecsy, 1975:114). An attempt has been made to improve interpersonal relations by training both the cooperating teacher and the student teacher in Flander's Interaction Analysis technique for assessing the communications patterns in the classroom (Moskowitz, 1966). Experimentally, this has proven to be beneficial in opening communications channels within the dyad. However, the training of cooperating teachers poses a problem. The training of teachers in the technique is very time consuming for the teacher. Also, if the technique is to remain operational for the teacher, the process must be practiced regularly. It is questionable if classroom

teachers would be willing to devote the time necessary to become proficient in the technique.

Teacher training institutions are continually experimenting with program variations in attempts to make the professional training more efficient for the preservice teacher. Micro-teaching is a popular technique used by universities which utilizes the video tape recorder. Using peers as subjects, the student teacher experiments with a variety of teaching techniques. The playback then permits a self analysis. Demonstration schools have been used to allow a preservice teacher to observe a master teacher in action. This technique is an attempt to bridge the gap between theory and practice prior to the student teaching experience. Universities are experimenting with a variety of extended field experience programs in an attempt to find the most efficient combination of theory and student teaching. Brandon School Division #40 and the Faculty of Education, Brandon University, for example, experimented with the "teacher auxiliary" concept. In this program, the prospective teacher spends a year in the school system working as a paraprofessional prior to the professional training. Other school districts have attempted to copy the medical profession's intern program. The beginning teacher or intern spends a year in the school system with less than a full professional teaching load. The intern year comes after the completion of the professional training of the intern and provides for extended supervisory guidance from the professional staff of the school.

There seems to be a clear need for finding ways to improve the efficiency of the transition from college to classroom. Finding

a more efficient balance between theory and field experience may be beneficial to some. However, regardless of the type of program, some support would be given to the supervisory process if there was a better understanding of the variations in emotional stress of the student teacher and the causes of these stresses.

Gustafson (1969:15) states that "it is clear that anxiety does affect the type of interaction occurring in the classroom". The assumption follows that anxiety will also affect the interaction between student teacher and supervisor. If counselling the student teacher is one of the roles of the supervisors, then it follows that anxiety could interfere with this counselling. Since the student teaching period is of short duration, maximum professional growth of the student teacher can only be attained when all barriers to personal interaction are minimized as early in the student teaching year as possible. Part of the function of the supervisors is to evaluate the teaching ability of the student teacher. Objectivity in this assessment is extremely important both from the point of view of professional growth of the student teacher and because this assessment will undoubtedly have a bearing on the employment opportunities of that student teacher. When factors such as student teaching anxieties screen the potential of the student teacher, his true capabilities may not be realized.

During the student teaching year the student teacher is exposed to a different type of learning. Curriculum development, discipline problems, and a multitude of other new concepts are challenges to be faced. The student teacher is now learning processes that will be applied to other human beings. The responsibility

associated with the program can be frightening to many. Gaudry and Spielberger (1971:74) state that "overwhelming weight of evidence consistently points to a negative relation between anxiety and various measures of learning and academic achievement." With a better understanding of the nature, sources and levels of anxieties of student teachers, there may be need to interject something into the professional program of the student teacher at critical times in order to remove or prevent anxiety.

IV. DEFINITION OF TERMS

Student teacher. An individual enrolled in the practicum year of a teacher training program in the Faculty of Education or the Faculty of Music, Brandon University, during the 1975-76 academic year.

Cooperating teacher. A member of staff in the school in which the practicum is held and who takes responsibility for supervising and counselling the student teacher.

Faculty supervisor. A member of the University Faculty charged with the responsibility for supervising the practicum experience of student teachers.

Student teaching. The period of time the student teacher spends in the school observing teaching methods, experimenting with teaching methods, assisting the cooperating teacher and working with students of the school (synonymous with "practicum").

Student teaching year. The year of professional training that includes the practicum.

State anxiety. A transitory emotional state or condition of the human organism that is characterized by subjective, consciously perceived feelings of tension and apprehension and heightened autonomic nervous system activity and as expressed by the State-Trait Anxiety Inventory (STAI), form X-1 (Gaudry and Spielberger, 1971:14).

Trait anxiety. Relatively stable individual differences in anxiety proneness, that is, to differences between people in the tendency to respond to situations perceived as threatening and as expressed by the STAI, form X-2 (Gaudry and Spielberger, 1971:14).

V. LIMITATIONS OF THE STUDY

The size of the sample of student teachers in the "music" cell is extremely small in relation to "elementary" and "secondary" cells. Therefore, any extreme scores may have an undue influence on the results of the study.

Since programs vary widely from university to university and from year to year within the same university, and since orientation to student teaching will vary, caution must be taken in inferring the results of this study on all teacher training institutions. The subjects involved in this study completed all of the practicum during the certification year. In some teacher training programs, the practicum is extended over a two or three year period.

VI. THESIS OVERVIEW

In this chapter the problem area has been reviewed and the research questions have been presented. In Chapter 2, an introduction

to anxiety theory as it relates to this study is presented together with a review of the research that has been carried out on the anxieties specific to teachers. Chapter 3 will describe the instrumentation and the data collection procedures. The results of the analysis will be presented in Chapter 4. The final chapter will summarize the findings of the study and will draw some conclusions.

Chapter 2

RELATED LITERATURE

I. INTRODUCTION

Anxiety is a Janus-headed creature that can impel man to self-improvement, achievement and competence, or can distort and impoverish his existence and that of his fellows. The distinction appears to be a sheer matter of degree, of intensity, as it is with many other phenomena of human life. The urgent need is to acquire the knowledge to utilize anxiety constructively, to be its master and not its slave (Levitt, 1967:234).

The complexity of the topic of anxiety has led to a multitude of research studies in the past century. Spielberger (1966) estimates that 3,500 publications related to anxiety appeared between 1950 and 1966. It would serve no meaningful purpose to review the vast body of literature in this thesis. Rather, a review will be made of only that segment of the literature that relates to the study of anxieties in student teaching. The review will also include a brief summary of the development of some of the theories of anxiety as they pertain to learning theory and some of the work being done in the specific area of student teaching.

II. ANXIETY: ITS NATURE AND EFFECTS

Theoretical Base

The modern contemporary theories of anxiety began with the work of Kierkegaard and the publication of The Concept of Dread in 1844. Kierkegaard, a theologian and a psychologist, dealt with personal responsibility, guilt and anxiety (McReynolds, 1976). Kierkegaard was

searching for a new basis for unity of personality by trying to solve the problem of anxiety. This publication marked the first time that anxiety was identified as a specific problem (May, 1950).

Students of anxiety such as Kierkegaard and Freud separated anxiety into two different forms. Normal anxiety or objective anxiety was the form of anxiety that resulted from the individual reacting to a stimulus in a manner which was proportional to the threat to his personality. Neurotic anxiety was that feeling that resulted when the individual reacted to the objective threat in a disproportional manner. Freud, however, was the first to attempt to explain anxiety in terms of psychological theory (Spielberger, 1966:9). He described anxiety as "a specific state of unpleasure" (Freud, 1936:70). Anxiety was something felt by the individual and was rated as an increase in excitation which was responsible for not only the unpleasure but also its discharge through motor processes (Freud, 1936:70).

Freud's main concern was one of identifying the sources of stimulation which precipitated anxiety rather than analyzing the properties of the anxiety states. His theories evolved over a period of fifty years of continuous modification (Spielberger, 1966). His works are best noted for his focus on neurotic anxiety and he suggested that neurotic anxiety resulted from the individual's inability to cope with relatively minor objective threats such that the source of the danger became internal rather than external (May, 1950:199).

Personality theorists have been unable to reach agreement about "the nature of anxiety, the particular stimulus conditions that arouse it, and the sorts of past experiences that make individuals more or less vulnerable to it" (Spielberger, 1966:11). Mowrer's "guilt

theory", Sullivan's "tension theory" and May's "apprehension theory" are but a few of the more prominent theories developed (Spielberger, 1966:11). Most of the research on anxiety prior to the 1950's involved investigations of fear, frustration and conflict in animals: sheep (Liddell, 1944), dogs (Gantt, 1942), cats (Masserman, 1943), rats (Mowrer, 1940; Miller, 1948).

For ethical reasons there was very little experimental work on human anxiety during this period (Spielberger, 1966:5). Not until 1951 was experimental research extended to human subjects by Taylor (Spielberger, 1975:118). Following her research, the number of books and articles written on anxiety-related topics has risen very sharply. "Perhaps, as suggested by Levy (1961), the research trends...reflect the availability of instruments and technique for measuring anxiety" (Spielberger, 1966:7). Probably the most significant of these scales was the Manifest Anxiety Scale (MAS) which first was developed by Taylor in 1951. This instrument was developed as a measure of general drive in accordance with Spence's Iowa Theory, not as a measure of clinical anxiety per se (Levitt, 1967:84, 139). Over the next fifteen years it is estimated that over 2,000 studies employed the MAS (Spielberger, 1975:119).

Drive Theory of Learning

Drive theory as developed by Spence and Taylor used as its basis Hullian concepts. Hull's Multiplicative Drive Theory assumed that the strength of any given response was a function of total effective drive state (D) and habit strength (H). He assumed that drive combines multiplicatively with the learned tendencies or habit

strength to yield a resultant "excitatory potential (E)" which is expressed simply as $E = D \times H$. Thus, if there was no learned habit, no excitation potential would result (Brown, 1961). The implication of this concept is that all learning is a function of reinforcement. Hullian theory, however, dealt with the effect of the relative strength of a single habit. The stronger the habit strength, the stronger the excitatory potential and hence the response strength for all individuals, regardless of their drive level. For a given habit strength, high drive individuals would be expected to be superior in performance on simple tasks.

Spence and Taylor expanded Hull's theory to include complex learning situations and used primarily the MAS as a measure of drive to test and verify their assumptions (Spence and Spence, 1966; Taylor, 1956). They maintain that as the task becomes more complex, there appears one or more additional response tendencies that are invoked by the stimulus, only one of which is correct. Each one of these response tendencies, however, is affected by the Multiplicative formula. Thus, the response tendency with the greatest habit will have the greatest excitatory potential and thus the greatest probability of occurring and the number of correct and incorrect response tendencies becomes a variable as well as the habit strength of each one. Consequently, if the incorrect response tendencies are higher in the habit hierarchy than the correct response tendencies, high drive individuals would be expected to be inferior in performance to low drive individuals. If the correct response is strongest, it will have more "E", and the high drive individual would be expected to be superior. In a learning situation, the strength of the correct

response tendency would increase with time and the performance of the high drive individual would be expected to increase.

In summary, high drive individuals would be expected to show superiority on easy tasks where there are few interfering or competing response tendencies. As the difficulty of the task increases, the superiority of the high drive individual would be expected to decrease. High drive individuals would be expected to show inferiority early in learning, but later in learning when the weak correct response tendencies are learned and strengthened in habit, the high drive individual would tend to improve.

Taylor is very explicit in pointing out that in spite of the fact that a number of researchers have used the MAS as a measure of anxiety, its purpose was solely to select subjects differing in drive level for her investigations of Drive Theory (Taylor, 1956:303). Taylor does acknowledge, however, a close correlation between anxiety and drive level: "...scores on the scale (MAS) are in some manner related to emotional responsiveness, which in turn, contributes to drive level (Taylor, 1956:306) and "...individuals scoring high and low on the anxiety scale will differ in drive level" (Taylor, 1956:307). Not all performance differences between anxiety groups, however, can be explained in terms of drive theory (Spence and Spence, 1966:292).

Spence conceptualized anxiety as an acquired drive which had the capacity to energize the organism. Levitt (1967:140) reports that Spence's theory of anxiety parallels drive theory of multiplicative relationships: "...anxiety will energize or strengthen each of the habits in the hierarchy in proportion to the initial strength of the

habit." Such a condition would then have the effect of increasing the absolute difference in the value of "E", thus energizing the habit that is the stronger.

During the 1950's a great deal of research on anxiety dealt with Drive Theory and the relationship between anxiety (as measured by MAS), stress and learning. The results yielded conflicting results, however, in providing both support to the Drive Theory and to the relationships between Stress and Learning.

Taylor was able to support her Drive theories experimentally (Taylor, 1956:307), but acknowledges other contradictory findings by Hilgard, Jones and Koplín (Taylor, 1956:308). The literature of this period shows considerable support for the Drive Theory using the MAS (Spielberger, 1975:121; Spence and Farber, 1954) and also casts considerable doubt on the validity of some of the assumptions (Sarason and Palola, 1960; Sarason, 1956; Spielberger, 1975:123; Mandler and Sarason, 1952; Sarason, Mandler and Craghil, 1952).

Contemporary Theories on Anxiety

Thus, research about anxiety during the 1950's and the early 1960's produced conflicting results and variations in some theories. Spielberger comments, "given the conceptual ambiguities in anxiety theory, it is not surprising that anxiety research is characterized by semantic confusion and contradictory findings" (Spielberger, 1966:12) and:

...there is a lack of general consensus on specific aspects of the nature of anxiety, and on specific aspects of the relation of anxiety to a broad spectrum of behavioral indices. With this state of affairs, it is difficult to derive rigorous explanations of anxiety, and to make precise predictions about the effects of anxiety and associated phenomena (Phillip, et al, 1972:436).

Much of the confusion and inconsistency may be caused by the complexity of emotional phenomena (Spielberger, 1972b:25). The use of such terms as anxiety, fear, stress and tension led to differing conceptions of the psychological construct of anxiety, since these terms meant different things to different investigators. Another major difficulty is that "...most investigators have defined anxiety in terms of a complex personality process with multiple components, and each investigator has tended to include different aspects or components in his definitions of the anxiety process" (Spielberger, 1972, Vol. II:484). A good example of the inconsistencies is the confusion over the use of the terms fear and anxiety. Levitt suggests "...the distinction between anxiety and fear is no more than theoretical" (Levitt, 1967:3). Mowrer regards anxiety and fear as synonymous (Spielberger, Vol. II, 1975:117). Epstein argued that anxiety and fear are identical except for the ease with which the evoking stimuli can be identified, while others (Lazarus and Averill, Spielberger) concede anxiety and fear as sharing common elements, while still others (Sarason) think that anxiety and fear are different (Sarason, 1975:179).

Epstein reviewed the theories of Goldstien, Rogers, May, Lazarus, Mandler and Cattell on the matter of fear versus anxiety and points out the similarities and differences. His conclusion from the investigation is that the most common distinction in fear is that the source of the threat is known, while with anxiety the source of the threat is unknown (Epstein, 1972:297 ff.). Another widely accepted view is that the term fear is an emotional reaction to an anticipated danger of some real objective object but in such a way that the

intensity of the emotion is proportional to the magnitude of the threatening danger. The term anxiety is then used to describe an emotional reaction which is considered objectless since the stimulus condition that caused the condition is unknown. In such a situation the emotional reaction becomes disproportionate to the magnitude of the danger.

The use of the MAS in anxiety research involving stress and complex learning tasks provided inconsistent results (Spence and Spence, 1966:302-310). One of the most significant findings in regards to these inconsistencies was the work of Cattell and Scheier (Spielberger, 1966:13). By means of factor analysis Cattell and Scheier were able to isolate two distinct anxiety factors (Levitt, 1967:86; Spielberger, 1966:13). One of these factors was interpreted as a stable individual personality characteristic which they labelled Trait Anxiety, while the other factor was based on a pattern of variables that varied over time. This was called State Anxiety. Factors that loaded on the Trait Anxiety factor were termed 'ergic tension,' 'ego weakness,' 'guilt proneness,' 'suspiciousness,' and 'tendency to embarrassment.' Spielberger states that:

Anxiety neurotics scored high on the Trait factor. Physiological variables such as respiration rate and systolic blood pressure markedly loaded the State Anxiety factor, but had only slight loadings on trait factor (Spielberger, 1966:13).

A number of physiological indicants have been used in experimental studies of State Anxiety. Some of these include:

1. Heart rate (Hodges and Spielberger as represented in Spielberger, Vol. II, 1975:130; Hare, 1975:180);
2. Sweating (Haywood and Spielberger, 1966);

3. Systolic Blood Pressure (Levitt, 1967:228);
4. Pupillometry (Janisse, 1976);
5. Muscle Action Potential (Spielberger, Vol. II, 1975:129);
6. Galvanic Skin Response (GSR) (Katkin as represented by Spielberger, Vol. II, 1975:129);
7. Respirations (Levitt, 1967:228).

Levitt suggests, however, that:

...physiological measures are administratively disadvantageous. In most cases rather expensive equipment, and sometimes highly specialized analytic procedures, are needed. Measurements invariably must be made individually; physiological measures are not suitable for the economic procedure of group administration (Levitt, 1967:80).

Most common indices of anxiety in research are paper and pencil measure of emotional reactions to stress in the form of an inventory. The inventory "...can be administered and scored quickly and easily by almost anyone, and it presents no difficulties in group administration. Its reliability is greater than that of physiological measures" (Levitt, 1967:81).

The human body, as a regulatory system for maintaining psychological equilibrium, uses homeostasis to build up defence mechanisms against anxiety. There seems to be agreement to this concept but some disagreement as to the nature and function of these mechanisms (Levitt, 1967:57). The individual, when encountering stressful situations, will usually either respond with a defensive process to reduce the intensity of the reaction state or will develop effective responses that will quickly alleviate or minimize the level of the danger (Spielberger, Vol. I, 1972b:43). Levitt (1967) suggests eight possible defence mechanisms that can be used:

1. Avoidance - the subject will avoid consciously or unconsciously the anxiety producing stimuli;
2. Denial - the subject ignores environmental dangers (even though they are not forgotten);
3. Repression - actively forgetting anxiety causing events. These events are put below the level of awareness but not forgotten;
4. Projection - transferring the source of the anxiety from oneself to the environment or to others;
5. Regression and Fixation - stopping or regressing the normal personality development in order to avoid the anxiety;
6. Somatization - a physical defect removing the possibility of further anxiety producing stimuli;
7. Counter-behavior - avoiding punishment by accepting anxiety;
8. Compulsivity - learning to overcome childhood inconsistencies and thus avoiding anxiety associated with them.

When the individual attempts to maintain these defences within the framework of his daily life style and its associated stresses, tensions develop. "Coping mechanisms" are then used to gain temporary relief from this tension. The coping mechanism is used to drain off the tension and is not a defence in itself (Levitt, 1967:75).

Some of the coping mechanisms mentioned in the literature are: eating, chewing gum, sleeping, exercising, daydreaming, smoking, crying, cursing, ingestion of alcoholic beverages and drugs (Levitt, 1967:76). Fenz, in experimentation with parachuters suggests that experienced jumpers learned to cope with stressful situations by becoming more selective in their defence mechanisms while with

inexperienced jumpers the control mechanism becomes more directly related to their performance. Thus experiences become coping mechanisms (Fenz, 1975:312).

Spielberger probably best sums up the concept of reactions to stress and anxiety:

Since elevations in state anxiety are experienced as unpleasant or painful, an individual will engage in cognitive and behavioral operations or responses that serve to reduce or minimize this discomfort. The individual may first reappraise the stressful circumstances that initiated the anxiety process, and this reappraisal may help him to identify appropriate coping mechanisms for alleviating the stress or it may lead him to call upon avoidance behaviors that permit him to escape from the anxiety-arousing circumstances. If he is unable to cope with or avoid the stress, he may engage in intrapsychic maneuvers (psychological defences) that serve to reduce the level of A-State intensity through regression, denial, projection or other mechanisms that distort his perception of the stimuli that initiated the anxiety process (Spielberger, Vol. II, 1972: 484-5).

III. STATE-TRAIT CONCEPT OF ANXIETY

The findings of Cattell and Scheier have focused current views of anxiety as a construct on the distinction between trait anxiety and state anxiety. "The trait-state relationship as a general statement appears inescapable..." (Levitt, 1967:228). One of the strongest proponents of the state-trait distinction is Spielberger. He suggests that "...anxiety research is characterized by semantic confusion and contradictory findings" (Spielberger, 1966:12). He suggests further that this confusion and ambiguity has resulted from a "more or less indiscriminate use of the term [anxiety] to refer to two related, yet logically very different constructs" (Spielberger, Vol. II, 1972:482). He accepts the construct that there is both state anxiety (A-State) and trait anxiety (A-Trait). Much of the confusion seems to have

arisen from the fact that "all but a few of the inventories measure trait anxiety, but they are frequently employed in experiments in which the investigator apparently intends to measure state anxiety" (Levitt, 1967:228).

To Spielberger "A-States may be conceptualized as consisting of unpleasant, consciously-perceived feelings of tension and apprehension, with associated activation or arousal of the autonomic nervous system" (Spielberger, Vol. I, 1972b:29). This transitory state is a "reaction that may vary in intensity and fluctuate over time" (Spielberger, Vol. I, 1972b:29). It is "evoked whenever a person perceives a particular stimulus or situation as potentially harmful, dangerous, or threatening to him" (Spielberger, Vol. II, 1972:482).

Trait Anxiety "refers to relatively stable individual differences in anxiety proneness" (Spielberger, 1972:137). "A-Trait is not directly manifested in behavior, but may be inferred from the frequency and intensity of an individual's elevations in A-State over time" (Spielberger, Vol. II, 1972:482). Spielberger parallels the relationship of A-State to A-Trait to that of kinetic and potential energy:

Personality states, like kinetic energy, refer to palpable empirical reactions or processes taking place here and now at a given level of intensity. Personality traits, like potential energy, represent latent dispositions to respond with certain types of reactions, if triggered by appropriate stimuli (Spielberger, Vol. I, 1972b:32).

The assumptions of the Trait-State theory of anxiety have been summarized by Spielberger (Vol. I, 1972b:44) as follows:

1. In situations that are appraised by an individual as threatening, an A-State reaction will be evoked. Through sensory and cognitive feedback mechanisms high levels of A-State will be experienced as unpleasant.

2. The intensity of an A-State reaction will be proportional to the amount of threat that the situation poses for the individual.

3. The duration of the A-State reaction will depend upon the persistence of the individual's interpretation of the situation as threatening.

4. High A-Trait individuals will perceive situations or circumstances that involve failure or threats to self-esteem as more threatening than will persons who are low in A-Trait.

5. Elevations in A-State have stimulus and drive properties that may be expressed directly in behavior, or that may serve to initiate psychological defences that have been effective in reducing A-States in the past.

6. Stressful situations that are encountered frequently may cause an individual to develop specific coping responses or psychological defence mechanisms which are designed to reduce or minimize A-State.

The assumption is also made that the level of A-Trait is at least partially determined in an individual as a result of childhood experiences since self-concept is often established in a childhood setting.

Spielberger gave a major focus of his studies to the effects of stress and anxiety on behavioral measures of learning. In doing so, he often used Drive Theory as a basis of his hypotheses about the effects of stress on subjects who measured high and low on A-Trait inventories. He found that "situations that are characterized by physical dangers are not interpreted as differentially threatening by high and low A-Trait subjects" (Spielberger, Vol. I, 1972:44). The finding was confirmed in a study by Rappaport and Katkin done in 1972.

In his discussions of anxiety theory, Spielberger prefers to go beyond the Trait-State concept in discussing anxiety. He believes that anxiety should be more process oriented so that the theory of anxiety would include stress and threat as well as state and trait

anxiety as fundamental variables (Spielberger, Vol. II, 1972:489).

As noted earlier, the State-Trait concept of anxiety differentiation seems to have gained wide acceptance (Meyers and Martin, 1974:38; Gaudrey, et al, 1975; Izard, Eptsein and Lazarus as represented in Spielberger, Vol. II, 1972:483). Kimmel suggests that "...this movement has had a highly beneficial effect to the extent that it has clarified both semantic and substantive differences between the chronic long-term condition and the acute temporary one" (Kimmel, 1975:196).

Endler accepts Spielberger's description of the relationship between A-State, type of threat and A-Trait but disagrees with his conception of A-Trait as being too restrictive. Endler contends that Spielberger's State-Trait Anxiety Inventory (STAI) is a measure of only interpersonal trait anxiety and ignores the aspects of "physical danger" and "ambiguity" which he also contends are domains of A-Trait. Endler thus suggests that trait anxiety is multidimensional. "Situational factors are equally important for A-Trait, and it is our contention that A-Trait is multidimensional rather than unidimensional" and:

The relationship between trait and state anxiety is certainly more complex than suggested by the Spielberger (1966, 1972) State-Trait anxiety model, but is also probably more complex than the initially suggested by the person-situation interaction model [of Endler] (Endler, 1975:161).

Research has examined a number of variables in investigating the effects of stress and anxiety on performance. Most researchers have examined the relationships between groups of subjects who have scored high and those who have scored low on A-Trait inventories such as the Manifest Anxiety Scale (MAS) or the STAI, form X-2.

Sex differences in anxiety seems to have produced quite consis-

tent results with females scoring significantly higher on self-report scales than males. "This holds for test anxiety (Sarason, et al, 1960; Forbes, 1969); general anxiety (Castenada, McCandless and Palermo, 1956; Phillips, 1962); and school anxiety (Phillips, 1966)" (Phillips, et al, 1972:418). These differences tend to be more pronounced in lower social class groups (Levitt, 1967:223). Kata, however, reports that while males do generally score lower than females, "sex of the respondent is not a good predictor of the anxiety level" (Kata, 1975: 281).

In his survey of a number of Scandanavian countries, Kata found a general positive relationship between age and anxiety scores in all countries surveyed. This prompted the conclusion that "age of the respondent seems to be one of the best predictors of anxiety" and that "there is no great thresholds between consecutive age groups" (Kata, 1975:279). Cattell, however, noted a steady decline of anxiety from adolescence to early maturity (Cattell, 1966:44). Kata found this condition held true only for Finland and Sweden.

Spielberger used Drive Theory as a basis of his investigations in the effect of age and sex variables. Situations involved the examination of both simple and complex learning situations. He found that for simple learning tasks where competing response tendencies were minimized, high anxiety facilitated learning. For complex tasks, involving a number of competing response tendencies, high anxiety resulted in performance decrements (Spielberger, 1966:366). This finding was confirmed by Faber and Spence and by Taylor (Spielberger, 1966: 366). The issue of competing responses is significant here and Spielberger draws attention to the distinction between anxiety-produced

competing responses and task-produced competing responses (Spielberger, 1966:367). He suggests that for anxiety-produced interfering response tendencies, the generalization on performance decrements in complex tasks may only apply above a certain "threshold level," above which the responses begin to interfere with performance (Spielberger, 1966: 392).

IV. TEACHER ANXIETIES

Researchers in recent years have been extending their focus to what Sarason refers to as "specific anxieties" (Sarason, 1975:178). Specific anxieties such as test anxiety, speech anxiety, teaching anxiety, school anxiety and death anxiety have been receiving attention. Sarason maintains that it is important to consider the relationship between some of these specific anxieties to the concepts of general anxiety. "According to Sarason, et al (1962), teacher training is an area which is too frequently neglected by both researchers and innovators in the field of education and psychology" (Phillips, et al, 1972:445). A search of the literature reveals that little has been written on the anxieties of teachers in training.

Some researchers use "teacher concerns" interchangeably with the construct of "anxiety." Thompson (1963:435) is one who does so on the basis of his definition of the term "anxiety" which he refers to as "a mixture of fear, apprehension, and hope referred to the future." Fuller, et al, also relates teacher concerns to anxiety. The concerns of student teachers are emphasized:

The path of knowledge of subject matter to communication of subject matter is not simple and direct but complex and devious. The proponents of scholarship alone as preparation for teaching

are doomed to imperial embarrassment simply because persons and, of course teachers, are not fixed input-output mechanisms, but rather jungles of intervening and interfering or facilitating variables. One simple-minded but powerful class of variable is the teachers' own needs and concerns (Fuller, et al, 1967:166).

The literature revealed only one successful attempt to correlate expressed concerns of teachers with anxiety scales, that of the Parsons' development of the Teacher Anxiety Scale, TCHAS (1970). Parsons' TCHAS correlated highly to the construct of anxiety as noted in Chapter 3 of this thesis.

Teacher Concerns

Fuller, et al, through a process of counselling-oriented T-Group sessions examined the nature of concerns of student teachers between 1960 and 1962 at the University of Texas. The "Texas Project" discovered a pattern of concerns during the first semester which repeated itself during the succeeding two semesters. "During the early part of the semester, student teachers' concerns centered on themselves and as the semester advanced, they became more concerned with their pupils" (Fuller, et al, 1967:195). The Project revealed six stages of student teacher concerns. These stages were:

Stage I - Where do I stand?

Student teachers were concerned with the coming student teacher situation and with their part in it. They were eager to discover more about their assignment, their college and teacher supervisors, the school routine and the expectations that would be placed on them.

Stage II - How adequate am I?

This stage was referred to as "another self-preservation phase." Here the student teachers were mainly concerned with their class control and subject matter adequacy.

Stage III - Why do they do that?

Student teachers were concerned about their feelings about student problems and the peculiar behaviors that some students exhibit. The student teachers were becoming more concerned about individual students.

Stage IV - How do they think I'm doing?

The student teachers' major concerns were about how they were viewed by parents, supervising teachers, principals and about their student teaching grade.

Stage V - How are they doing?

Here the student teachers were concerned about the correlation between the actual learning accomplished by the pupils and their self-assessment of their own teaching.

Stage VI - Who am I?

The student teachers were concerned with their own self-concept in the classroom and their interrelationships with their students (Fuller, et al, 1967:160-165).

A study at Midwestern University involving 20 volunteer student teachers enrolled in a course in introductory psychology examined through group-counselling technique, personal problems, accomplishments and aspirations of the students. The group-counselling sessions were part of a research study designed to explore the use of Bloom's Taxonomy of Educational Objectives as a means of assessing the outcome of group-counselling. The results of the study revealed some specific resentments and fears of these preservice teachers. Student teachers resented instructors treating them as "high school students" and courses that they judged to be irrelevant. They resented evaluation of their performance by others and being required to memorize data for tests and also about the irrationality of society as they saw it. The fears that most commonly surfaced were fears of failing college, fears of disliking the teaching profession, lack of competency of classroom

management and discipline, lack of academic competencies, and the fears that their own attitudes would interfere with effective teaching (Welter, 1971).

Thompson (1963:435) designed a checklist of 35 questions, "each defining a particular type of anxiety" and administered the checklist to 125 student teachers near the end of their internship period. The group was made up of 47 female elementary, 25 female secondary and 53 male secondary internees. Each student was asked to indicate whether or not he had experienced each particular anxiety and in an ex-post facto manner, to indicate whether each one had been experienced prior to or during the student teaching period. They were also asked to indicate whether the source of the anxiety was something seen, heard, imagined or unknown. He found that 77 per cent were concerned about their relationship with supervising teachers, and 60 per cent were "anxious about their mastery of the subject matter in their major teaching fields (Thompson, 1963:437). Other concerns listed were lesson plans, pupil reaction, standards of teacher conduct, inability to answer questions and problems of discipline. He also found that prospective female teachers reported more anxieties than male students, with the elementary teachers being more anxious than secondary teachers. He found that all groups reported more anxiety prior to student teaching but at that particular time of the year, female secondary teachers scored the highest. The sources labelled "heard" and "imagined" led in frequency, followed by "unknown," "seen," "others," and "read."

Hoover, Kaiser and Podlick examined the influence of the student teaching experience on the self-expressed felt competencies of

student teachers. Arizona State University student teachers of 1962-63 were asked to rank 25 "teaching techniques" in order of how competent they felt. The ranking was done prior to and at the conclusion of student teaching. As a result of the student teaching experience, students felt more competent in the areas of establishment of goals or objectives, in terms of student behavior, construction and administration of classroom tests, managing classroom behavior problems, and in the area of directing classroom study activities. Students felt significantly less competent in four areas: utilizing instructional resources, panel discussions, organization and direction of role-played activities, and supervising club or extra-curricular activities (Hoover, et al, 1965).

Bessai and Edmonds (1977) conducted a survey of 907 education students from eight different universities across Canada in an attempt to assess student perceptions of their teacher training program. While the survey indicated that student teachers generally felt that the student teaching programs in Canada do meet the needs of the students, there was concern expressed that 60 per cent of the students surveyed had no course in classroom management and 43 per cent did not have a course in classroom evaluation. Both the students who took these classes and those who did not indicated that not enough was being done in these areas.

Campbell (1968), using 72 student teachers at the University of South West Louisiana examined the relationships among attitudes, anxiety levels and problems of student teachers. The instruments used were the Institute for Personality and Ability Testing (IPAT anxiety scale), the Minnesota Teacher Attitude Inventory (MTAI) and the Student

Teacher Inventory for perceived problems. The most frequent perceived problems in rank order were: (1) teaching techniques, (2) student teacher-pupil relationship, (3) student teacher as a person, (4) human relationships with peers and other professionals. The first two were rated significantly higher than the last two. In this study, Campbell found the greatest increase in overt and covert anxiety in secondary school student teachers, unmarried student teachers and student teachers within the 20 to 24 age group. She also found that decrease in anxiety was exhibited more by the male student teachers and the married student teachers.

Petrusich (1967) investigated the relationship between anxiety and student teachers' classroom behavior over the eight week student teaching practicum. The IPAT was used for the establishment of trait anxiety and the IPAT 8-parallel-Form Anxiety Battery was administered weekly as a measure of state anxiety. The data indicated that anxiety was lowest in the first, second, seventh and eighth weeks, and peaked at the sixth week. Petrusich attributes this decrease in anxiety to coping mechanisms that the student teacher sets up.

Miller and Jurs measured state anxiety of student teachers at five different times in the student teaching experience. Three instruments were used: the Specific Fear Index, the Anxiety Differential and the Multiple Affective Check List (MAACL). The instruments were given to 228 seniors at the University of Toledo, who were doing their student teaching. The findings conflict with both those of Thompson and Petrusich because no significant differences were found in anxiety levels, either over time nor by sex. The authors further reject that student teaching is an anxiety-producing experience

(Miller and Jurs, 1974).

Valencia (1970) looked at anxiety as a drive and its relationship to performance. She found that student teachers who were initially highly anxious, demonstrated more anxiety than student teachers initially low in anxiety. The failure of Miller and Jurs to examine the differences between high and low A-Trait individuals might explain their inconsistent finding compared to those of Petrusich and Campbell.

V. SUMMARY AND HYPOTHESES

Summary

Anxiety is a construct which all persons experience in varying degrees and circumstances. How one learns to handle anxiety and stress will surely affect the maturation and the mental health of the individual. Research on stress, fear and anxiety has been extensive since the early 1950's with the development of the Manifest Anxiety Scale. Unfortunately the research is clouded with ambiguities and conflicting evidence. The emergence of the State-Trait theory of anxiety has provided the answers to some of the inconsistencies.

"Both general observation and research shows that student teaching produces anxiety" (Morse, 1965:5). Parsons (1973) found positive relationships between teacher concerns (specific anxieties) and general anxiety scales. Petrusich (1966) concluded that a better psychological climate might be found in a classroom where the student teacher's anxiety level were low to average.

It would seem that at some level, anxieties in student teaching may become detrimental both to the maturation of the student teacher and to the optimum learning atmosphere of the students.

The Hypotheses

The research questions, posed in Chapter 1 are now restated in terms of hypotheses which were tested in the study:

1.0 The level of STATE anxiety as related to student teaching will increase until the student teacher has had the opportunity to attempt field experience, after which STATE anxiety will decrease.

The level of STATE anxiety as related to student teaching is related to sex, age, training program and success in teacher grades.

1.1 The level of STATE anxiety as related to student teaching will increase between the time the student teacher first enrolls in the student teaching year and the time he attempts his first field experience session.

1.2 The level of STATE anxiety as related to student teaching will decrease as the student teacher gains experience in student teaching.

1.3 The least successful student teachers experience higher levels of STATE anxiety.

1.4 Older student teachers experience lower levels of STATE anxiety than younger student teachers.

1.5 Female student teachers experience higher levels of STATE anxiety than male student teachers.

1.6 Elementary student teachers experience higher levels of STATE anxiety than do other student teachers.

2.0 The level of concerns or teacher anxiety changes during the student teaching year and these concerns are related to sex, age, training program and success in student teacher grades.

2.1 The level of teacher anxiety decreases during the student

teaching year.

2.2 Elementary student teachers experience higher levels of teacher anxiety than do other student teachers.

2.3 Female student teachers experience higher levels of teacher anxiety than male student teachers.

2.4 Older student teachers are less prone to high levels of teacher anxiety than younger student teachers.

2.5 The least successful student teachers experience higher levels of teacher anxiety than the highly successful student teachers.

3.0 There is a strong correlation between the levels of STATE anxiety and the levels of teacher anxiety throughout the student teaching year.

4.0 Student teachers have specific anxiety causing concerns during their student teaching year.

5.0 Student teacher concerns are most frequently caused by unknown fears which are products of their imagination.

6.0 There is a relationship between the level of TRAIT anxiety of student teachers and the level of Teacher Anxiety.

6.1 Student teachers who possess high levels of TRAIT anxiety experience higher levels of Teacher Anxiety than do student teachers who possess low levels of TRAIT anxiety.

6.2 Student teachers who possess high levels of TRAIT anxiety experience a decrease in teacher anxiety during the student teaching year.

6.3 Student teachers who possess low levels of TRAIT anxiety do not experience a change in teacher anxiety during the student teaching year.

In the following chapters the procedures for collecting and analyzing the data used in an attempt to resolve the questions posed by these hypotheses will be described.

Chapter 3

RESEARCH PROCEDURES

I. INTRODUCTION

The purpose of this study was to attempt to establish the anxiety levels of student teachers at different stages of the student teaching year. Secondly, an attempt was made to identify the specific concerns that student teachers have regarding the practicum of their teacher training program.

In this chapter the research methodology is outlined, including a description of the instruments used. The characteristics of the subjects used in the study are also presented.

II. DESIGN OF THIS STUDY

The study was carried out using students enrolled in the Faculty of Education and the Faculty of Music, Brandon University during the 1975-76 academic year. All students were enrolled in their student teaching year.

Permission was received from the Dean of the Faculty of Education, Brandon University, to solicit the support of all student teachers in collecting data for this survey. Arrangements were made through the Dean's office to conduct the first two testing sessions during regularly scheduled class time at the University. Two additional testing sessions were conducted in the field.

The first two testing sessions were supervised by the research-

er, while the testing sessions in the field were under the supervision of the school principal or his appointed representative, who was a qualified teacher. The school principals were telephoned in advance to solicit their cooperation in the study. The approval of the School Superintendents in those school divisions where the survey was being conducted was also obtained by telephone.

The study was introduced to the student teachers at the first testing session. The subjects were told that the study was "research into finding ways of providing more effective supervision of student teachers" (see Appendix A). Care was taken, however, to avoid the use of the term "anxiety" in the collection of these data. All students were given the opportunity to opt out of the study if they so wished. One student declined to participate.

The first testing session was conducted at the end of the first week of classes (see Figure 1). The second testing session was just prior to the first practicum. Due to an error in the special timetabling at the University, however, a handful of students were missed in the second session. These students were tested during the first two days of the practicum in the schools (see Appendix A). The third testing session (Appendix A) was in the schools, at the conclusion of the first practicum and the fourth and final testing session was the conclusion of the second practicum (Appendix A). This session coincided with the completion of the student teaching year.

State anxiety (A-STATE) was measured at each of the four testing sessions while trait anxiety (A-TRAIT) was measured at the first and fourth sessions. Teacher anxiety was measured at the second, third and fourth sessions while a Source Questionnaire, designed to

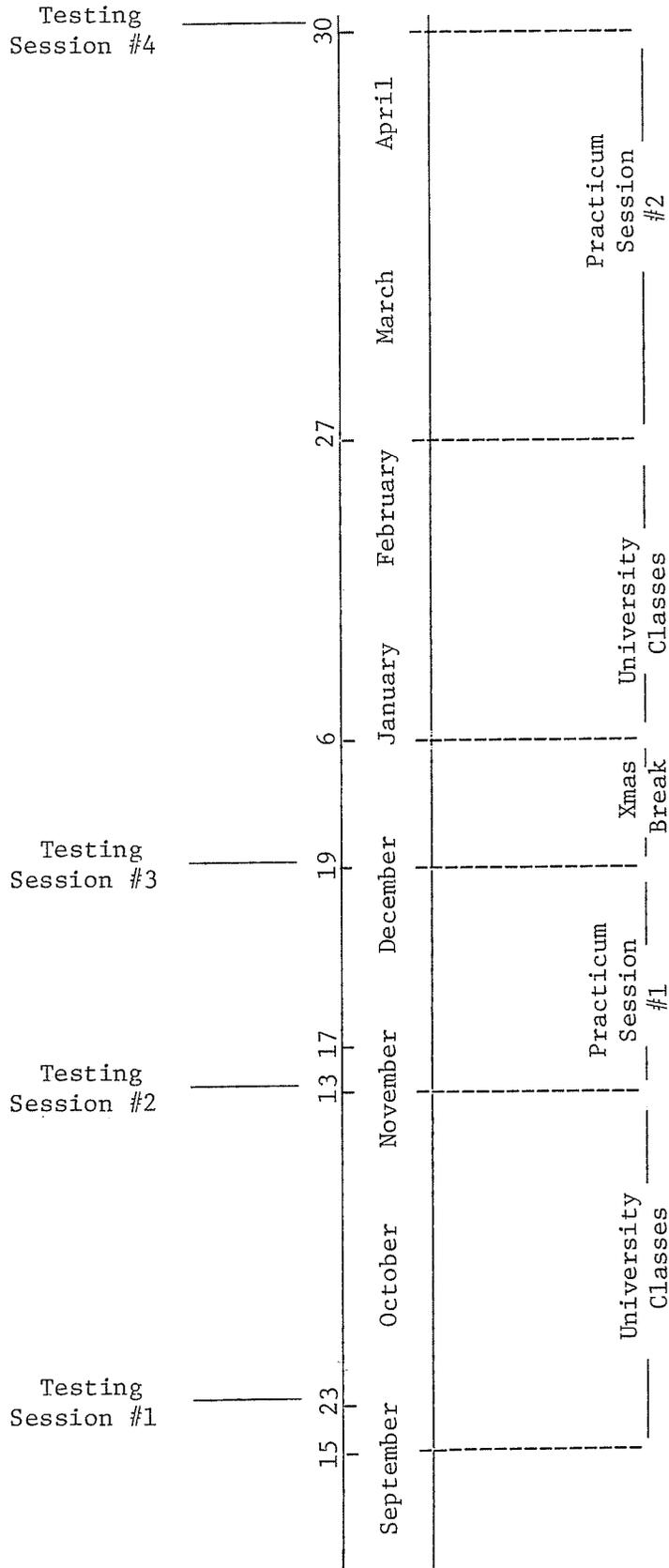


Figure 1

Timeline, Student Teaching Year,
Brandon University 1975-76

attempt to examine the source of specific concern, was administered at the second testing session.

The subjects were asked to fill out a personal characteristics form (Appendix A) at the first session. This provided information used for classifications in the analyses of the data.

III. INSTRUMENTATION

Instruments

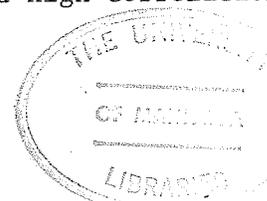
The State-Trait Anxiety Inventory, STAI (see Appendix B), was used to determine the levels of State Anxiety and of Trait Anxiety. The Teacher Anxiety Scale, TCHAS (1) - 25 (see Appendix B), was used to measure the level of specific concerns of the student teachers. The self-expressed sources of concern was collected by a method used by Thompson (1963) (see Appendix B).

The State-Trait Anxiety Inventory. The STAI was developed by Spielberger, Gorsuch and Lushene (1966). The test consists of two parts (Appendix B). The first Form X-1, consists of 20 statements that ask people to describe how they feel "at this moment" and measures the state anxiety. The authors state that "the instructions may be modified to evaluate the level of A-STATE intensity for any situation...that is of interest to an experimenter" (Spielberger, et al, 1970:4). In this study the words "about student teaching" were inserted for Form X-1 only, following the words "at this moment" (Appendix A). The second Form X-2, also consists of 20 statements which ask people to describe how they "generally" feel and measures trait anxiety. Scoring on both Form X-1 and Form X-2 is on four point

scales for each of the 20 questions. The scoring on Form X-1 range from "not at all" (1) to "very much so" (4), and on Form X-2 from (1) "almost never" to (4) "almost always." Scores range from a minimum of 20, indicating low anxiety to a possible maximum of 80, indicating very high anxiety. When both forms were completed at the same sitting, the A-STATE scale was given first in an effort to prevent some anxiety from carrying over from the A-TRAIT scale.

The authors state that the test-retest reliability (N=484) administered over different intervals of one hour, 20 days and 104 days, and under varying conditions of stress, showed a correlation of 0.73 to 0.86 for the A-Trait scale and stability coefficients from 0.16 to 0.54 for the A-State scale. The low correlation supports the theory that a valid measure of A-State would be expected to reflect the variations in stressful conditions existing at the time of testing. The reliability coefficient on a test for internal consistency on both the A-State and A-Trait scales ranged from 0.83 to 0.92. The authors contend that given the transitory nature of anxiety states, measures of internal consistency would seem to provide a more meaningful index of reliability of the A-State scale than test-retest correlations (Spielberger, Gorsuch and Lushene, 1970).

Evidence of the STAI's validity was obtained from two different sources. The A-Trait scale was correlated with other established anxiety measures with the following results: the Institute for Personality and Ability Testing, IPAT, 0.75 to 0.77; the Taylor Manifest Anxiety Scale, MAS, 0.79 to 0.83; the Zuckerman Affect Adjective Checklist (general form) AACL, 0.52 to 0.58. The inter-correlations of the measures of Trait anxiety showed high correlations



except that of the AACL, which was only moderately correlated with the MAS and the IPAT. Therefore the AACL might be measuring something slightly different from the IPAT, MAS and the STAI.

The construct validity of the A-State scale is supported by an investigation with 977 subjects of Florida State University who were given the A-State scale first with standard instructions (NORM conditions) and then with the instructions to respond according to how they believe they would feel "just prior to the final examination in an important course" (EXAM conditions). The mean scores of both male and female subjects were significantly higher under the EXAM conditions than under the NORM conditions, with all but one of 20 items significantly discriminating between these two conditions for males. All items were significantly higher for the females (Spielberger, Gorsuch and Lushene, 1970:10).

The authors of the test manual point out that although the STAI is a relatively new instrument, it has been used in a number of studies measuring state and trait anxiety. They summarize current research with the STAI as revealing its high correlation with other measures of trait anxiety and listed some of the following studies as supporting its construct validity: Hodges (1967), Sachs and Dienenhaus (1969), Sachs (1969), Gorsuch (1969), Lamb (1969), Averbach (1969), McAdoo (1969), Hodges and Felling (1970).

In his review of anxiety instruments, Levitt (1967) evaluated the following instruments: the Taylor Manifest Anxiety Scale, the Institute for Personality and Ability Testing (IPAT), the Stimulus-Response Inventory (S-R), the Fear Survey Schedule, the Assimilation Scale, the Affective Adjective Checklist (AACL), the Subjective Stress

Scale (SSS), the Freeman Manifest Anxiety Test, the Test Anxiety Questionnaire, the Achievement Anxiety Test and the State-Trait Anxiety Inventory. The following comments were made of the STAI:

The STAI is the most carefully developed instrument from both theoretical and methodological standpoints of those presented in this chapter. The test construction procedures described by Spielberger and Gorsuch are highly sophisticated and rigorous (Levitt, p. 71).

The Teacher Anxiety Scale. The TCHAS was developed initially by Parsons (1967) at Stanford University for use with preservice intern teachers. The TCHAS contains 25 self-report statements about teacher reactions to teaching. All statements are presented on a five point scale ranging from low agreement with the item (1=never) to high agreement with the item (5=always).

Characterizing oneself as having anxiety implies something about oneself in socially desirable or undesirable terms (social desirability). Due to the nature of anxiety, Parsons believed it was impossible to construct an anxiety scale that would measure anxiety but eliminate social desirability as a response bias. However, she tested social desirability and correlated the results with TCHAS results. Twelve correlations ranged from -0.17 to -0.47, all were negative and two correlations reached statistical significance. Since the American culture views anxiety as a negative tribute, Parsons felt that the effect of social desirability was as low as could be expected. In order to reduce "acquiescent set," approximately half of the items are reverse scored. Acquiescent set refers to the tendency of subjects to agree to the same degree with all statements on self-report measures, regardless of item content (Parsons, 1973:7).

Parsons uses the same argument concerning test-retest stability coefficients as Spielberger uses for State anxiety. "Even a brief period in the life of a preservice teacher who is undergoing initial teaching experiences might be expected to result in idiosyncratic change in his feelings about, and attitudes toward teaching" (Parsons, 1973:11). The two month test-retest reliability coefficient for the TCHAS (1) - 25 was 0.61.

The validity of the TCHAS was tested by a variety of methods. The TCHAS was correlated with both the Taylor Manifest Anxiety Scale and the Test Anxiety Scale. The TCHAS and the MAS (administered concurrently) were correlated between 0.30 and 0.45 ($P < 0.05$). The TCHAS (1) - 25 and the TAS, administered one month apart, were also moderately correlated. The correlations were consistently positive and were predominantly significant (Parsons, 1973:13).

Twenty five teaching supervisors completed 19 TCHAS items about each of their preservice intern teachers. Also each intern teacher completed the same items about himself. Eleven of the 19 resulting validity correlation coefficients, which ranged from 0.24 to 0.54 were significant ($P < 0.05$). This agreement tends to add some validity to the construct being measured by these items. In an effort to determine the unique component of the TCHAS, Parsons found that 76 per cent and 86 per cent of what the TCHAS (1) - 25 measures is reliable and independent of what is being measured by the MAS and the TAS respectively. This independence indicates the unique component that resides in the construct of teaching anxiety and supports the existence of Teaching Anxiety as a separate trait (Parsons, 1967:15).

In additional testing, Parsons had 25 supervisors each rate

five or fewer preservice intern teachers from the program (N=120) who appeared to be the most anxious about teaching and to list five or fewer who appeared to be the least anxious about teaching. The most anxious group had a significantly higher mean score (77.1) than did the least anxious group (62.1). This adds validity to the TCHAS as a measure of anxiety about teaching.

The alpha coefficients of internal consistency were 0.87 to 0.93, suggesting that teaching anxiety, as measured by the TCHAS, is an unitary variable. A factor analysis was done on the TCHAS and the results showed that 22 out of the 25 items loaded most heavily on the same factor, again indicating the measurement of an unitary variable.

Source Questionnaire. Student teachers were asked to indicate by a checklist whether each specific concern was, as far as they knew, based on something seen, heard, imagined, unknown or other. Each item on the questionnaire corresponds to the same numbered item on the TCHAS and deals with the same concern. This method of identification of anxiety was developed by Thompson and adapted to the items on the Teacher Anxiety Scale by the researcher (Thompson, 1963).

IV. CHARACTERISTICS OF RESPONDENTS

The student teachers involved in the study were enrolled in one of three programs at Brandon University: the Bachelor of Music program, the Education I program or the Bachelor of Teaching program. All students were enrolled in the student teaching or practicum year.

Program Descriptions

Education I. Students taking the Education I program had completed a degree in Arts, Science or a similar acceptable degree as a pre-requisite to the program. This program was a one year program which culminated with an Interim Professional Teaching certificate in Education. These students were required to select a Senior High, Junior High or Elementary training optional stream. On the successful completion of Education I, the student teaching year, students were eligible for certification by the Manitoba Department of Youth and Education to teach at any grade level in Manitoba schools.

Bachelor of Teaching. The Bachelor of Teaching program was a three year degree program. The first year was made up of a minimum of 30 credit hours of Arts, Science and Education courses. A minimum of 21 credit hours of the first year were to be from Arts, Science, Music or Physical Education and a maximum of nine credit hours were to be taken in Education courses. The second year of the B.T. program, B.T. II, was the student teaching year. Students were required to select either the Elementary or the Junior High streams. On the successful completion of the B.T. II program, the student teaching year, students were eligible for certification by the Manitoba Department of Youth and Education to teach at the Elementary or Junior High school levels in Manitoba schools with an Interim First-Class Teaching Certificate. The third year of the program, which was optional, provided for specialization in one of the following areas: Academic, General Education, Special Education, Pre-School Education or Intercultural Education.

Bachelor of Music, Music Education Major. This program was a four year program, the third year of which was the student teaching year. During this third year, Bachelor of Music students were required to take nine credit hours in the Faculty of Music studying Music methods courses and 18 credit hours in the Faculty of Education studying Educational Psychology, Classroom Management, School Philosophy and Methods courses. In addition the students were placed in the public schools system for a practicum similar to those students enrolled in the Faculty of Education. The practicum supervision was carried out by a staff member from the Faculty of Music for the music practicum and a staff member from the Faculty of Education for the second teaching area. Music students were also required to select one of the Elementary Junior High or Senior High streams for purposes of the combining of classes and programs with the Faculty of Education students.

Field Experience

The emphasis of the Field Experience (Practicum or Student Teaching) session was a focus on "bringing together knowledge, theory and Practice" and was to have been a "critical test of the student's prospective competency" (Brandon University Calendar, 1975-76). The students were required to spend 13 weeks in student teaching under the direction of a Faculty Supervisor. This practicum was to have been preceded by one week of orientation and observation in urban and rural schools, followed by seminars to discuss the observation session (Brandon University Calendar, 1975-76). Students reported, however, that the orientation was limited to two days in urban schools only.

No follow-up seminars were held.

V. SAMPLE SELECTION

At the first testing session, a total of 160 student teachers agreed to participate in the study. The 160 students were scheduled to do their student teaching in 77 different schools in Manitoba. The majority of these schools were located in Western and Central Manitoba, but also included were a few schools in the remote North, the city of Winnipeg and South-Eastern Manitoba.

From the original group of 160 student teachers, 11 students withdrew from the program, 51 students missed at least one of the four testing sessions and seven students neglected to complete at least one of the questionnaires at one of their sittings. A total of 91 students, therefore, participated in the study. These 91 subjects made up the research sample. The most significant problem encountered in the data collection was a mail strike which occurred during the student teaching session making it impossible to reach many students in remote areas.

The sample of 91 student teachers was made up of 44 males and 47 females (Table 1). Of this number 41 student teachers were enrolled in the elementary curriculum stream, 45 in the secondary curriculum stream and five music students (Table 2). Eighty-two student teachers were recommended by the University for certification, six were given incomplete standings and three were assigned failing grades (Table 3). Those who were granted incomplete standings were given the opportunity to complete their standing by either attempting an additional student teaching session under concentrated supervision

Table 1
Distribution of Students by Program and Sex

Sex	Elementary	Secondary	Music	Totals
Males	11	31	2	44
Females	30	14	3	47
Totals	41	45	5	91

Table 2
Distribution of Students by Program and Age

Age*	Elementary	Secondary	Music	Totals
Lowest through age 21	22	14	3	39
Age 22 through highest	19	31	2	52
Totals	41	45	5	91

*Range: age 18 to age 38; median age = 21.906

Table 3
Distribution of Students by Program and Certification

	Elementary	Secondary	Music	Totals
Recommended for certification	37	41	4	82
Incomplete	2	4	0	6
Failure	2	0	1	3
Totals	41	45	5	91

in a different school or by doing additional course work, dependent upon the reason for the incomplete standing.

VI. GROUPING OF SUBJECTS FOR ANALYSIS

1. Students were grouped for age analysis using the median age as the dividing point. The group was made up of 39 students of the lowest age through 21 years and 52 students of 22 years and higher (Table 2).

2. The subjects were grouped according to the program in which they were enrolled. This grouping provided three distinct cells: Elementary, secondary and music cells.

3. The subjects were grouped according to sex.

4. Success in the program was taken from the overall standing recommended by Brandon University to the Department of Education for certification purposes. The standing granted was (a) recommended for certification, (b) incomplete or (c) failure.

5. The subjects were grouped as high or low A-trait individuals. This was done on the basis of \pm one standard deviation from the mean score on the first administration of the A-Trait scale.

The theoretical construct of Trait Anxiety suggests that scores should remain relatively stable over extended periods of time. However, the post-A-trait test revealed significantly lower mean scores than the pre-A-trait test (Table 4). The pretest mean A-trait score was 36.36 and the post-test mean A-trait score was 30.40. This decrease in mean scores was consistent for high, low and mid-range A-trait individuals, however (Table 5). Subjects who scored "high" on both the pre- and post-test decreased from a mean score of 50.88 to a

Table 4

Comparison of Pretest and Post-test A-trait Mean Scores

Variable	N	Mean	t-value	df	2 tail-prob.
A-trait S ₁	91	36.3626	8.38	90	0.0000
A-trait S ₄	91	30.3956			

Table 5

Comparison of Pretest and Post-test A-trait Mean Scores for High Medium and Low Groups

Classification	Variable	N*	Mean	t-value	df	2 tail-prob.
High	A-trait S ₁	8	50.8750	3.16	7	0.016
	A-trait S ₄	8	45.3750			
Mid-range	A-trait S ₁	51	34.5490	7.36	50	0.0000
	A-trait S ₄	51	29.9608			
Low	A-trait S ₁	7	23.4286	1.51	6	0.183
	A-trait S ₄	7	21.8571			

*N ≠ 91 due to matching of Ss for Sessions 1 and 4 for each range.

mean score of 45.38. Subjects who scored in the mid-range on both tests decreased from a mean score of 34.55 to a mean score of 29.96 while "low" A-trait persons showed a decrease in mean scores from 23.43 to 21.86. This consistent decrease in mean scores on the A-trait instrument might leave some question about the assumption that individuals are capable of validity assessing their own anxiety levels. It may also be that the individual's level of A-state at the time of responding to the A-trait scale influences his self-assessment of trait

anxiety.

Because the decrease in trait anxiety was regular and consistent and the majority of the treatment period under study was during the first half of the student teaching year, the pretest was used as the discriminating variable in separating the student teachers into low and high A-trait individuals.

VII. METHOD OF ANALYSIS

Differences in mean scores of both the State Anxiety Scale and the Teacher Anxiety Scale were examined by use of t-test. This identified variations in levels of both State Anxiety and Teacher Anxiety. The level of confidence for acceptance or rejection of the hypotheses was set at the five per cent level. A 2-tailed test was utilized to examine for both increasing and decreasing mean scores. The data were examined for statistically significant mean score differences between successive measurements of both State Anxiety as measured by the STAI and Teacher Anxiety as measured by the TCHAS.

To test for differences on A-State and on Teacher Anxiety scales between groupings of sex, age, programs and student teacher success, a one-way analysis of variance was utilized. One-way analysis of variance was chosen to compare the mean scores of the variables identified within the subgroups because some groupings contained more than two subgroupings. For reasons of continuity, this statistic was used when groupings identified only two subgroups (i.e., sex) because "...when $J=2$, anova and the t-tests are different paths to the same destination...and always yield identical conclusions" (Hopkins and Glass, 1978:334).

To examine the relationship between the student teacher scores on the A-State scale and on the Teacher Anxiety Scale the Pearson-Product Moment Correlation was used.

The specific anxiety causing concerns as expressed through the Teacher Anxiety Scale were examined by two methods: A principal factor analysis with iterations was performed on the responses to the 25 item TCHAS (Appendix C) for each of the three administrations of the instrument. The first four factors accounted for 78.7 per cent of the variability in the first administration of the instrument, 90.6 per cent of the variability in the second administration and 89.3 per cent of the variability in the final administration. Next a varimax rotated factor matrix was obtained for each of the three sets of data. Rummel states that "a generally useful procedure is to extract all factors with eigenvalues greater than zero and then to evaluate factors with eigenvalues near unity for a factor cutoff on the basis of interpretability..." (Rummel, 1970:169). An eigenvalue of 1.0 was used to determine the number of factors to be considered. This provided four factors for examination on the first administration of the TCHAS. To facilitate the comparison of factors from each of the three testing sessions, factors with eigenvalues of 0.98 and 0.90 were included in the second and third administrations of the TCHAS (Table 6).

An item analysis for each of the three administration of the TCHAS was also carried out. The mean scores for each item on the TCHAS were examined in an effort to determine if any specific items were major contributors to anxiety levels in student teachers.

A frequency distribution was used in the analysis of the

Table 6

Results of Factor Analysis of Three TCHAS
Administrations Expressed in Eigenvalues

Factor*	Testing Session #2	Testing Session #3	Testing Session #4
1	7.17	8.16	8.24
2	1.53	1.52	1.49
3	1.21	1.12	1.24
4	1.09	0.98	0.90
5	0.89	0.67	0.79
6	0.79	0.56	0.63
7	0.70		
8	0.58		

*Above factors account for 100% cumulative variability in the principal factor analysis

Source Questionnaire to determine if the sources of Teacher Anxiety as expressed in the TCHAS was something seen, heard, imagined, unknown or other.

All data from the 91 student teachers were transferred to data cards and processed by using a computer utilizing the Statistical Package for the Social Sciences (SPSS) program.

In this Chapter, the instrumentation and methods of data collection and analysis have been described. In Chapter 4, the results and the analysis of the data will be presented and discussed.

Chapter 4

ANALYSIS OF DATA

I. INTRODUCTION

In this chapter, the variations in levels of anxiety, both A-State and Teacher Anxiety, are presented in graphic form. The results of the analysis are related to the hypothesis which were stated in Chapter 2. An examination of the concerns of student teachers and their sources is used to identify student teacher anxieties as related to the practicum.

II. LEVELS OF ANXIETY

State Anxiety

The levels of A-State through the student teaching year are illustrated in Graph 1. The mean score at the first testing session was 42.7 and was 39.4 at the second testing session (Table 7). At the third testing session the mean score was 29.5 and by the fourth testing session was 28.5. The differences in A-State mean scores were found to be statistically significant ($P < 0.05$) for the first two treatment sessions (Table 8). The period of time between Testing Sessions 2 and 3 was the first practicum session for the student teachers and represented the greatest difference in A-State mean scores. For the period between Testing Sessions 3 and 4, the difference in A-State scores was minimal and was not statistically significant.

Hypothesis 1.1 predicted that the level of state anxiety as

Table 7

A Comparison of STAI Mean Scores on A-State Subtest*

Sample	Testing Session #1	Testing Session #2	Testing Session #3	Testing Session #4
Total Group N=91	42.7	39.4	29.5	28.5
Low A-Trait N=10	32.8	32.2	22.6	23.8
High A-Trait N=17	51.6	44.4	32.9	32.8
Elementary N=41	42.1	38.6	29.6	28.7
Secondary N=45	43.2	40.3	29.4	28.1
Music N=5	43.4	37.8	28.8	30.6
Male N=44	40.9	37.4	28.9	27.7
Female N=47	44.4	41.3	30.0	29.3
Oldest N=52	42.9	39.9	31.0	28.9
Youngest N=39	42.4	38.8	27.5	28.0

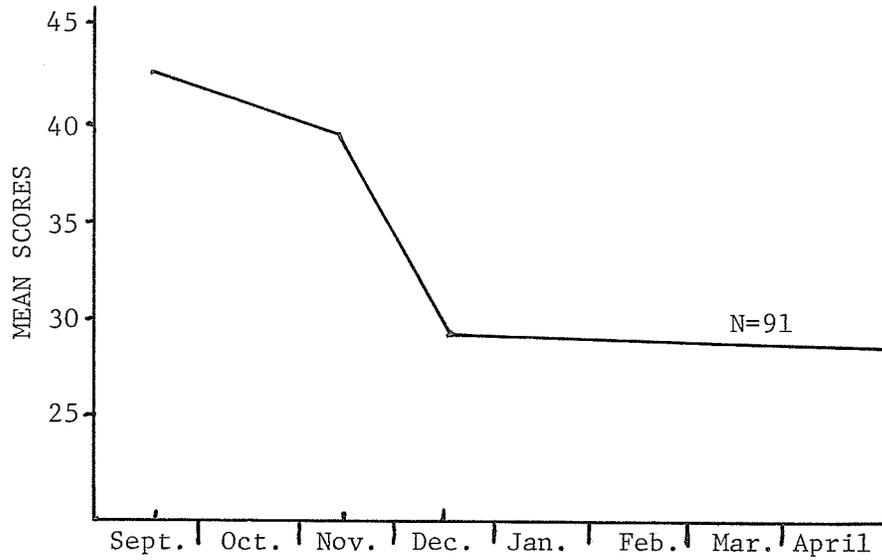
Table 7 (continued)

Sample	Testing Session #1	Testing Session #2	Testing Session #3	Testing Session #4
Recommended N=82	43.5	39.8	29.7	28.7
Incomplete N=6	33.0	36.1	25.1	25.3
Failure N=3	40.3	35.0	32.3	29.3

*Min. = 20; Max. = 80.

related to student teaching would increase between the time the student teacher first enrolls in the student teaching year and the time he attempts his first field experience. The data did not support this hypothesis. Hypothesis 1.2 predicted that the level of state anxiety as related to student teaching would decrease as the student teacher gains experience in student teaching. The statistically significant decrease in A-State mean scores between Testing Sessions 2 and 3 supports this hypothesis.

Much of the threat experienced by student teachers attempting their first student teaching session may be caused by unfamiliarity with both the teaching tasks and the working environment. As the practicum progresses, the student teacher becomes more and more familiar with the demands of student teaching and the activities related to these demands, thus perceiving a threat of decreasing intensity. The pattern of A-State test scores before and after the first practicum is therefore congruent with the hypothesis.



Graph 1

STAI, A-State Mean Scores

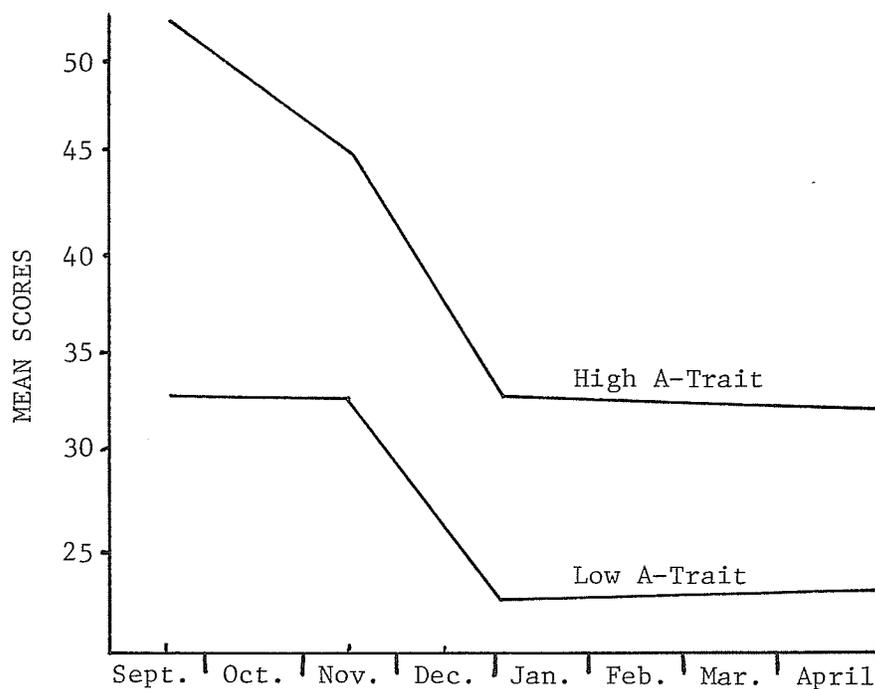
Table 8

A t-test Comparison of Mean Scores on
STAI, A-State Subtest (N=91)

Test	Mean Score	t-value	df	2-tail prob.
A-State, Session 1	42.7	3.82	90	0.000
A-State, Session 2	39.4			
A-State, Session 2	39.4	10.07	90	0.000
A-State, Session 3	29.5			
A-State, Session 3	29.5	1.28	90	0.204
A-State, Session 4	28.5			

During the period between Session 1 and 2, the student teacher is exposed for the first time to unfamiliar tasks related to teaching which would produce increases in A-State anxiety levels as stated in hypothesis 1.1. The results suggest either that the student teacher is not exposed to new and unfamiliar tasks that are perceived as threatening or that Faculty of Education programs contain threat reducing elements during this period of time.

Scores according to high and low A-Trait subjects. Graph 2 displays the relationship between A-State scores of high A-Trait subjects and those of low A-Trait subjects. For high A-Trait individuals, the A-State mean score was 51.6 at Testing Session 1 while for low A-Trait individuals it was 32.8 at the same testing session (Table 7). The



Graph 2

Comparison of High and Low A-Trait Student Teachers on STAI, A-State Mean Scores

A-State mean score at Testing Session 2 was 44.4 for high A-Trait individuals and 32.2 for low A-Trait student teachers. The difference in A-State scores between Sessions 1 and 2 was statistically significant ($P < 0.05$) for high A-Trait student teachers but not for the low A-Trait subjects (Tables 9 and 10). The A-State mean scores for high and low A-Trait individuals at Testing Session 3 were 32.9 and 22.6 respectively and were 32.8 and 23.8 at Testing Session 4. The difference in mean scores was statistically significant for both groups between Sessions 2 and 3 but the difference between Testing Sessions 3 and 4 was not significant for both high and low A-Trait student teachers.

There was no hypothesis stated for the relationship between A-State and A-Trait scores. However, those student teachers who are high in A-Trait, by definition, would be expected to exhibit higher A-State scores than would low A-Trait individuals because the former tend to react to a wider range of situations as dangerous or threatening. The extent to which the individual perceives the specific situations as threatening is greatly influenced by his past experiences. Spielberger suggests that high A-Trait persons react with greater A-State intensity in situations in which the individual's personal adequacy is evaluated or in situations that involve interpersonal relationships which may pose a threat to self-esteem (Spielberger, et al, 1970:30). Both the evaluation of personal adequacy and interpersonal relationships which could become a threat to self-esteem are present in the student teaching situation. The fact that high A-Trait individuals are more susceptible to the treatment period would suggest that there were some phenomena during that intro-

Table 9

A t-test Comparison of Mean Scores on STAI, A-State
Subtest for High A-Trait Student Teachers (N=17)

Test	Mean Score	t-value	df	2-tail Probability
A-State, Session 1	51.0	4.51	16	0.000
A-State, Session 2	44.4			
A-State, Session 2	44.4	4.80	16	0.000
A-State, Session 3	32.9			
A-State, Session 3	32.9	0.06	16	0.953
A-State, Session 4	32.8			

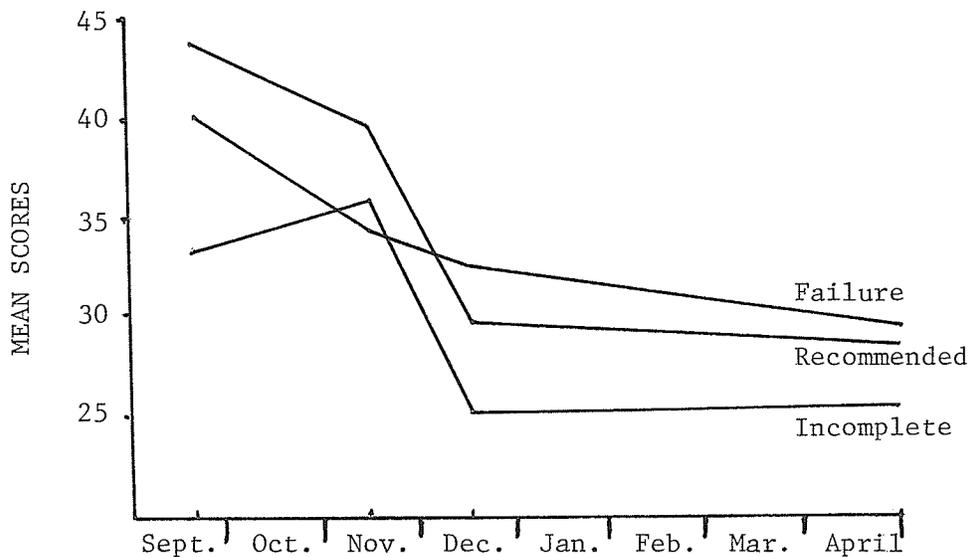
Table 10

A t-test Comparison of Mean Scores on STAI, A-State
Subtest for Low A-Trait Student Teachers (N=10)

Test	Mean Score	t-value	df	2-tail Probability
A-State, Session 1	32.8	0.023	9	0.827
A-State, Session 2	32.2			
A-State, Session 2	32.2	3.05	9	0.014
A-State, Session 3	22.6			
A-State, Session 3	22.6	-0.90	9	0.394
A-State, Session 4	23.8			

ductory session and during the first student teaching session that builds self-confidence in the individual to a greater extent for high A-Trait individuals than for low A-Trait individuals.

Scores according to final standings. Student teachers were awarded one of three final standings. The possible standings were either "recommended" for certification, "incomplete" or "failures." Student teachers' A-State mean scores according to their final standings are reported in Graph 3. Those student teachers who, at the end of the university year were recommended for certification had a mean score at Testing Session 1 of 43.5 as opposed to a mean score of 33.0 for those whose standing was incomplete. At this first testing session, those student teachers who received a final standing of "fail" had a mean A-State score of 40.4. At Testing Session 2, the A-State mean score



Graph 3

Comparison of STAI, A-State Mean Scores
on Final Standings of Student Teachers

for "recommended" students was 39.8, for "incomplete" students 36.1 and for "failure" students 35.0. At Testing Session 3, the mean scores for "recommended," "incomplete" and "failure" subjects were 29.7, 25.1 and 32.3 respectively. At the fourth and final testing session the A-State mean scores were 28.7 for "recommended" student teachers, 25.3 for "incomplete" student teachers and 29.3 for those student teachers who received a standing of "failure."

An analysis of variance (Table 11) revealed that only at Testing Session 1, was there a statistically significant difference between student teachers who had received final standings of "recommended," "incomplete" and "failure." Hypothesis 1.3 predicted that the least successful student teachers, those who received a final standing of "failure," would experience the highest levels of state anxiety. The data revealed that only at Testing Sessions 3 and 4 was the level of A-State the highest of the three groups of student teachers. Also, at neither of these testing sessions was there a statistically significant difference between groups. Thus the hypothesis is not supported by the data and must be rejected.

The University, in recommending a standing of "failure" said, in effect, that from its point of view, these students did not have the aptitudes or work habits to become successful teachers. Those who were "recommended" for certification and those given "incomplete" standings did have the potential to become successful teachers. The difference in A-State mean scores between these latter groups might suggest that there is a minimum level of anxiety below which the motivation of the individual is affected and might further suggest correlation between motivation and anxiety levels. The increase in

Table 11

Analysis of Variance: One Way Classification of
Teacher Anxiety on A-State Scale (N=91)

Source of Variation	F-Value	Degrees of Freedom		Probability
		Between	Within	
Certification:				
A-State, Session 1	3.532	2	88	0.0335*
A-State, Session 2	0.839	2	88	0.4357
A-State, Session 3	1.309	2	88	0.2753
A-State, Session 4	0.773	2	88	0.4648
Age:				
A-State, Session 1	0.055	1	89	0.8150
A-State, Session 2	0.355	1	89	0.5528
A-State, Session 3	5.444	1	89	0.0219*
A-State, Session 4	0.414	1	89	0.5218
Sex:				
A-State, Session 1	2.909	1	89	0.0916
A-State, Session 2	4.343	1	89	0.0400*
A-State, Session 3	0.520	1	89	0.4728
A-State, Session 4	1.380	1	89	0.2433
Program Level:				
A-State, Session 1	0.136	2	88	0.8728
A-State, Session 2	0.478	2	88	0.6217
A-State, Session 3	0.028	2	88	0.9726
A-State, Session 4	0.345	2	88	0.7094

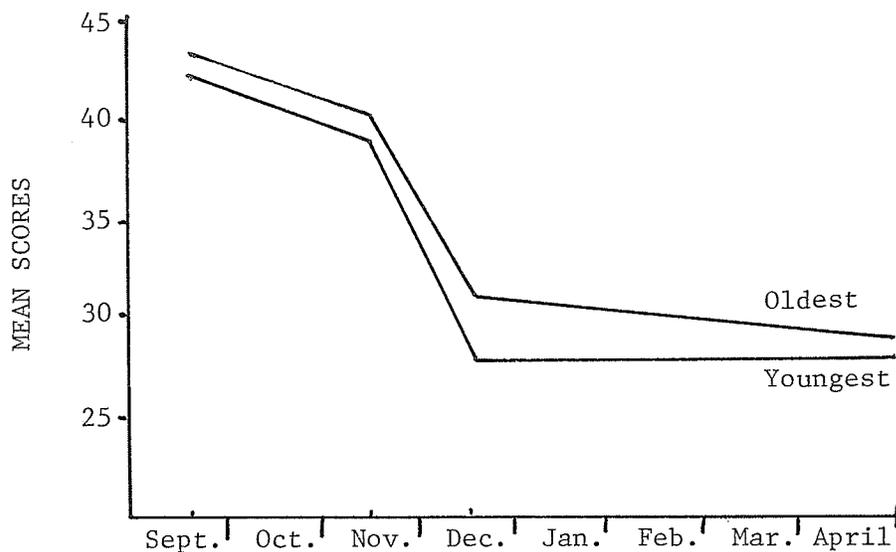
*Significant at 0.05 level of confidence.

A-State scores between Testing Sessions 1 and 2 for the "incomplete" grouping suggests that these students were experiencing phenomena that they considered threatening. This group was the only one in the study that behaved in accordance with the prediction of hypothesis 1.1. Overconfident individuals who suddenly discovered the demands of the classroom and expectations of cooperating teachers might be in this category of "incomplete" student teachers. Other student teachers who approach this period of time from the point of view of acquiring teaching skills prior to the practicum period would experience a decrease in A-States as these skills were acquired.

Scores according to age. Age did not seem to be a significant variable in levels of A-State. The trends, which were consistent to those of the total sample, are shown in Graph 4. The oldest student teachers, age 22 and older, had a mean A-State score of 42.9 at Testing Session 1 which the younger student teachers, age 21 and younger, scored 42.4. At Testing Session 2, the older subjects had a mean score of 39.9 and the younger student teachers scored 38.8. The mean A-State scores changed to 31.0 and 27.5 for the older and younger subjects respectively by Testing Session 3. At Testing Session 4, the older students had a mean A-State score of 28.9 with the younger students scoring 28.0. While the older student teachers experienced slightly higher levels of A-State than did the younger student teachers, the differences for the age variable were statistically significant ($P < 0.05$) only for Testing Session 3.

Hypothesis 1.4 predicted that older student teachers would experience lower levels of State anxiety than would the younger

student teachers. The data reveal that in each of the four testing sessions, the older student teachers scored consistently higher than the younger student teachers. Thus, hypothesis 1.4 must be rejected.

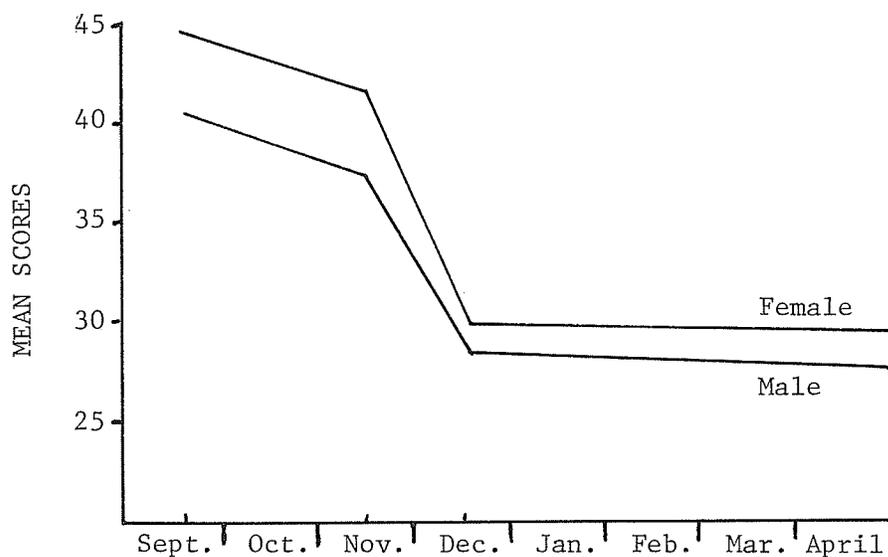


Graph 4

Comparison by Age of STAI, A-State Mean Scores

The findings of this study do not support the findings of Cattell who found a steady decline of anxiety from adolescence to early maturity. This study, however, looked at anxieties as they related to a chosen profession. It may be that older student teachers are affected by more extraneous variables than the younger subjects. Older students may have been away from the classroom for extended periods of time, they may be more susceptible to public opinion and they may have greater financial responsibilities at stake than students just out of high school. If this is the case, these people would probably experience more stress entering a new profession.

Scores according to sex. Females had higher A-State mean scores than males throughout the student teaching year (Graph 5). The mean A-State score was 44.4 for females and 40.9 for males at Testing Session 1. The scores were 41.3 for females and 37.4 for males at Testing Session 2 and were 30.0 for females and 28.9 for males by Testing Session 3. At Testing Session 4, the mean A-State score for females was 29.3 and 27.7 for males. The differences between males and females was statistically significant only at Testing Session 2 ($P < 0.05$).



Graph 5

Comparison by Sex of STAI, A-State Mean Scores

The prediction stated in hypothesis 1.5 was that females would have higher levels of State anxiety than would males. The data revealed that in each of the four testing sessions, females did have higher mean scores than males on the A-State scale. However, the sex variable provided statistically significant differences at only one out of four testing sessions. The data, then, did not reveal strong enough

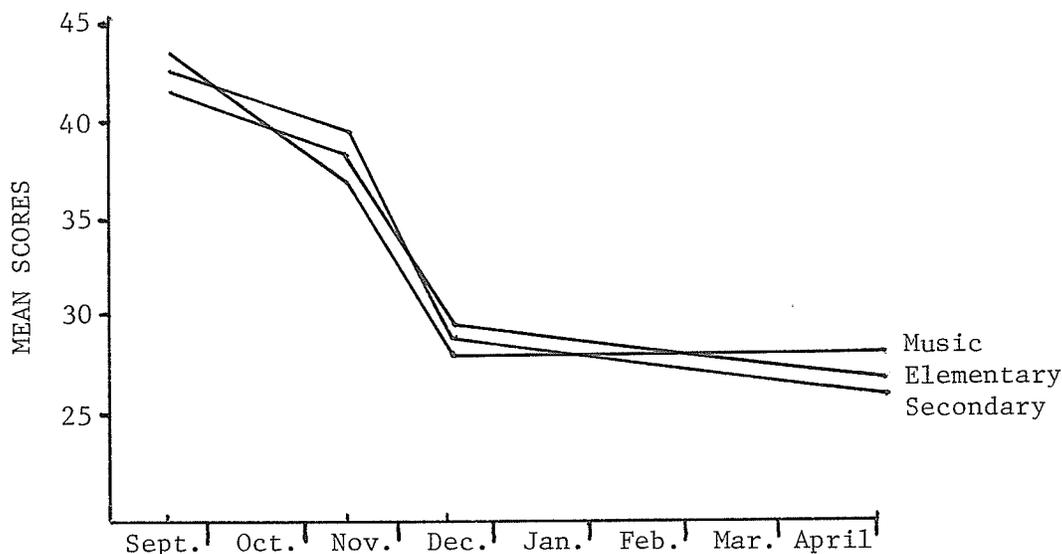
evidence to permit acceptance of the hypothesis.

The scores, analyzed for sex variable, suggest that the differences in A-State levels between males and females are not of a magnitude that would require differential treatment or programming for this variable in student teachers.

Scores according to program level. Student teachers were enrolled in one of three programs. Those student teachers preparing to teach in grades kindergarten through grade six were enrolled in the elementary program, those who were preparing to teach junior or senior high school had elected the secondary program and those whose goal was to teach music education were enrolled in the music program. The scores of student teachers enrolled in the three programs are shown in Graph 6. The mean A-State score for elementary teachers was 42.1 at Testing Session 1, 38.6 at Testing Session 2, 29.6 at Testing Session 3 and 28.7 at the fourth and final testing session. For secondary teachers the mean scores were 43.2, 40.3, 29.4 and 28.1. Music students had an initial mean score of 43.4. This changed to 37.8 at the second testing session and 28.8 at the third testing session. The score for music students at the fourth and final testing session was 30.6. Analysis of variance of the mean scores of the three subgroups revealed no statistically significance difference ($P < 0.05$) between elementary, secondary and music cells at any of the four testing sessions.

Hypothesis 1.6 predicted that elementary student teachers would experience higher levels of A-State than would other student teachers. The data showed that elementary student teachers had higher A-State scores than secondary and music subjects only at Testing

Session 3. The data therefore does not support the hypothesis and necessitates its rejection.



Graph 6

Comparison of STAI, A-State Mean Scores by Program Level

The trends displayed by both elementary and secondary student teachers were very similar to the trends of the total sample. Music teachers, however, demonstrated a greater decrease in A-State mean scores between Testing Sessions 1 and 2 than the other two groups and demonstrated a slight increase in A-State mean scores between Testing Sessions 3 and 4, during a period when scores were decreasing for elementary and secondary students. This change may be explained by the differences in preparatory work and academic skills between the music group and the elementary and secondary subjects.

Summary. The data reveal only incidental differences in A-State scores as they relate to student teachers for the variables of final

standings, age, sex and program level. Statistically significant decreases in A-State scores for the total sample were noted for two of the three time periods. These periods were the time between Testing Sessions 1 and 2 or the prepracticum period and the other was the time between Testing Sessions 2 and 3 or the first practicum period. The basic trend established for the total sample throughout the student teaching year was evident in almost all of the variable subgroups examined.

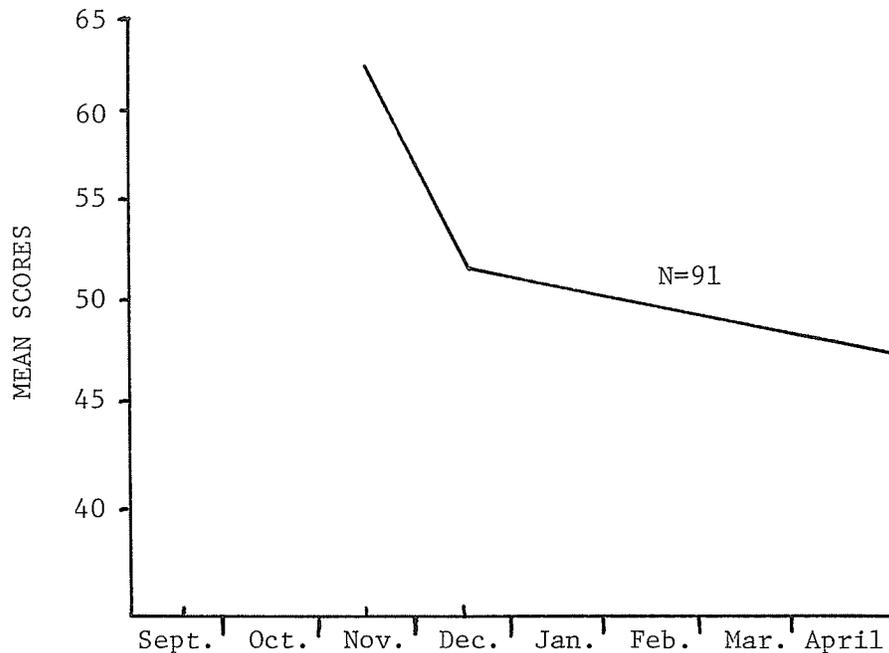
Student teachers who scored highest on the A-Trait scale demonstrated much higher A-State mean scores than those who scored low on the A-Trait scale. These high A-Trait subjects also showed greater decreases in A-State levels than the low A-Trait subjects during both the prepracticum session and the first practicum session.

Teacher Anxiety

The Teacher Anxiety Scale (TCHAS) was not administered at Testing Session 1 because the items were so specific to teaching that the student teacher might not be prepared to identify with some of the concerns listed. Also, the items might have induced anxieties by introducing unfamiliar aspects of the teaching task. The first administration of the TCHAS was at Testing Session 2, immediately prior to the first practicum session.

The mean scores on the TCHAS, displayed in Graph 7, indicate similar trends to the mean scores on the A-State scale. The mean teacher anxiety scores were 62.3 at Testing Session 2, 52.2 at Testing Session 3 and 48.5 at Testing Session 4 (Table 12). The differences in mean scores were statistically significant ($P < 0.05$) for both the

periods of time between Testing Sessions 2 and 3 and between Testing Sessions 3 and 4 (Table 13).



Graph 7

TCHAS Mean Scores

Hypothesis 2.1 predicted decreases in the levels of teacher anxiety during the student teaching year. The data clearly support this hypothesis with statistically significant decreases for both time periods tested.

Student teachers receive guidance and support from a variety of sources during the student teaching year. Course professors, supervising faculty members, cooperating teachers and principals all make attempts to assist the student teacher in making the transition from theory to practice. Also, as student teachers become more accustomed to the teacher's role, confidence will increase. The

Table 12
A Comparison of TCHAS Mean Scores*

Sample	Testing Session #2	Testing Session #3	Testing Session #4
Total Group N=91	62.3	52.2	48.5
Low A-Trait N=10	48.8	45.2	39.9
High A-Trait N=17	68.8	55.9	54.3
Elementary N=41	60.8	49.5	45.8
Secondary N=45	62.8	54.1	49.1
Music N=5	69.8	57.4	64.4
Male N=44	59.1	51.3	46.6
Female N=47	65.2	53.1	50.2
Oldest N=52	61.6	54.0	48.8
Youngest N=39	63.1	49.9	48.0

Table 12 (continued)

Sample	Testing Session #2	Testing Session #3	Testing Session #4
Recommended N=82	63.0	52.6	48.7
Incomplete N=6	55.2	48.5	44.2
Failure N=3	57.0	49.0	51.0

*Min. = 25; Max. = 125

Table 13

A t-test Comparison of Mean Scores
on the Teacher Anxiety Scale (N=91)

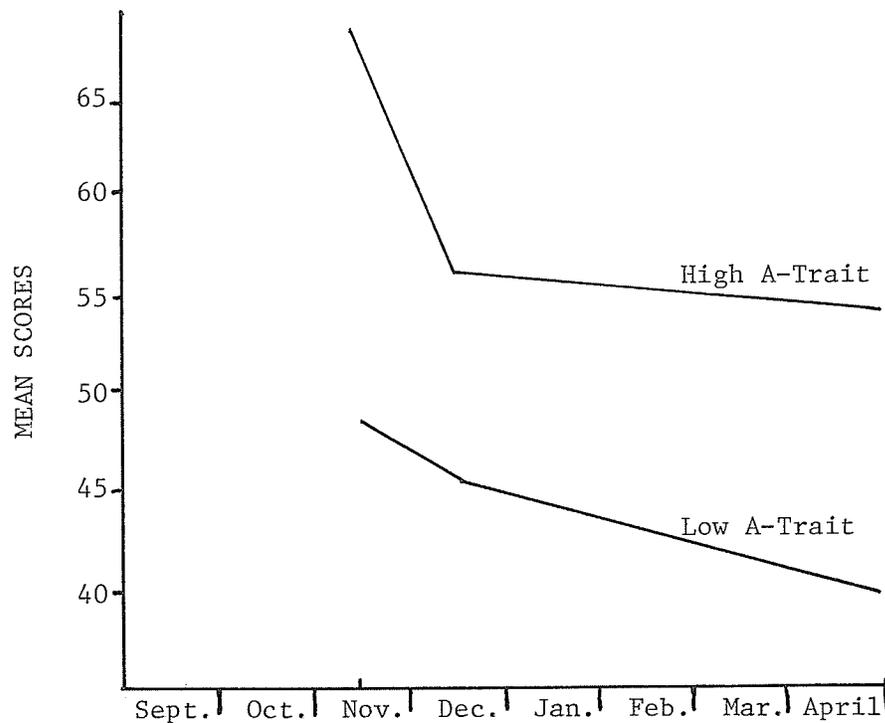
Test	Mean Score	t-value	df	2-tail Probability
TCHAS, Session 2	62.3	9.01	90	0.000
TCHAS, Session 3	52.2			
TCHAS, Session 3	52.2	4.33	90	0.000
TCHAS, Session 4	48.5			

interactive process between supervisory support provided and familiarity with the role assists in the alleviation of teacher concerns and the corresponding decreases in anxiety levels demonstrated by the data.

Scores according to A-Trait levels. Student teachers were divided into high and low A-Trait groupings on the basis of \pm one standard deviation from the mean A-Trait score. Those subjects who had high scores on the A-Trait scale had a mean TCHAS score of 68.8 at Testing Session 2 and a mean score of 55.9 at Testing Session 3 (Table 12). At Testing Session 4, the TCHAS mean score for high A-Trait subjects was 54.3. For low A-Trait student teachers the TCHAS mean scores were 48.8 at Testing Session 2, 45.2 at Testing Session 3 and 39.9 at Testing Session 4. These mean scores are shown in Graph 8. The difference in teacher anxiety scores between Testing Sessions 2 and 3 was statistically significant ($P < 0.05$) for high A-Trait individuals but not for low A-trait subjects (Table 14 and 15). The differences in mean scores was not significant for both high and low A-Trait groups between Testing Sessions 3 and 4. The differences in mean TCHAS scores between Testing Sessions 2 and 4 was statistically significant for both A-Trait groups.

Hypothesis 6.2 predicted that student teachers who possess high levels of Trait anxiety would experience a decrease in teacher anxiety during the student teaching year. The data revealed a statistically significant decrease in TCHAS mean score for high A-Trait student teachers between Testing Sessions 2 and 4. These data support the hypothesis. The significant decrease between Testing Sessions 2 and 3 for this group indicates that this period of time, which corresponded

to the first practicum, accounts for the major portion of the anxiety decrease.



Graph 8

Comparison of High and Low A-Trait Student Teachers on TCHAS Mean Scores

Hypothesis 6.3 predicted that low A-Trait student teachers would not experience a significant change in teacher anxiety scores during the student teaching year. The data reveal that there was a statistically significant decrease in TCHAS mean scores for this group between Testing Sessions 2 and 4. Hypothesis 6.3 would therefore have to be rejected. The decrease in teacher anxiety was much more gradual than for high A-Trait subjects, however, as neither of the periods between Testing Sessions 2 and 3 or Testing Session 3 and 4 produced statistically significant drops in TCHAS mean scores.

Table 14

A t-test Comparison of Mean Scores on the Teacher Anxiety Scale for Low A-Trait Student Teachers (N=10)

Test	Mean Score	t-value	df	2-tail Probability
TCHAS, Session 2	48.8	0.81	9	0.438
TCHAS, Session 3	45.2			
TCHAS, Session 3	45.2	2.07	9	0.069
TCHAS, Session 4	39.9			
TCHAS, Session 2	48.8	2.54	9	0.032
TCHAS, Session 4	39.9			

Table 15

A t-test Comparison of Mean Scores on the Teacher Anxiety Scale for High A-Trait Student Teachers (N=17)

Test	Mean Score	t-value	df	2-tail Probability
TCHAS, Session 2	68.8	4.66	16	0.000
TCHAS, Session 3	55.9			
TCHAS, Session 3	55.9	0.87	16	0.395
TCHAS, Session 4	54.3			
TCHAS, Session 2	68.8	4.13	16	0.001
TCHAS, Session 4	54.3			

The relationship between high and low A-trait individuals on the TCHAS mean scores was similar to that of the A-State mean scores. The high A-Trait individuals scored considerably higher on the TCHAS than the low A-Trait student teachers. Unlike the A-State scores, however, the teacher anxiety scores continued to drop for low A-Trait individuals between Testing Sessions 3 and 4.

Table 16 provides a comparison of the mean TCHAS scores of high and low A-Trait individuals at each of the three testing sessions. The data show a statistically significant difference between high and low A-Trait subjects ($P < 0.05$) for all Testing Sessions. Hypothesis 6.1 predicts that student teachers who possess high levels of trait anxiety would experience higher levels of teacher anxiety than those with low A-Trait anxiety. On the basis of the analysis of Table 16, the data would support the hypothesis and permit acceptance of the prediction in the hypothesis.

Scores according to program level. Elementary student teachers indicated less teacher anxiety than secondary or music student teachers as displayed in Graph 9. Elementary subjects' teachers anxiety mean score was 60.8 at the second testing session while the mean score for secondary students was 62.8. A mean teacher anxiety score of 69.8 was obtained for student teachers with music majors. At Testing Session 3, elementary teachers' mean score was 49.5, secondary 54.1 and students with a music major was 57.4. At the fourth and final testing session the TCHAS score for elementary teachers was 45.8 and for secondary teachers was 49.1. Student teachers with a music major scored 64.4 at this final testing session. Analysis of variance revealed that the

Table 16
 Comparison of High and Low A-Trait
 Student Teachers on TCHAS Scores

	Mean	t-value	df*	One-tail Probability
TCHAS Session 2:				
Low A-Trait	48.8	-4.04	12.44	0.001
High A-Trait	68.8			
TCHAS Session 3:				
Low A-Trait	45.2	-1.88	15.59	0.039
High A-Trait	55.9			
TCHAS Session 4:				
Low A-Trait	39.9	-2.64	20.67	0.007
High A-Trait	54.3			

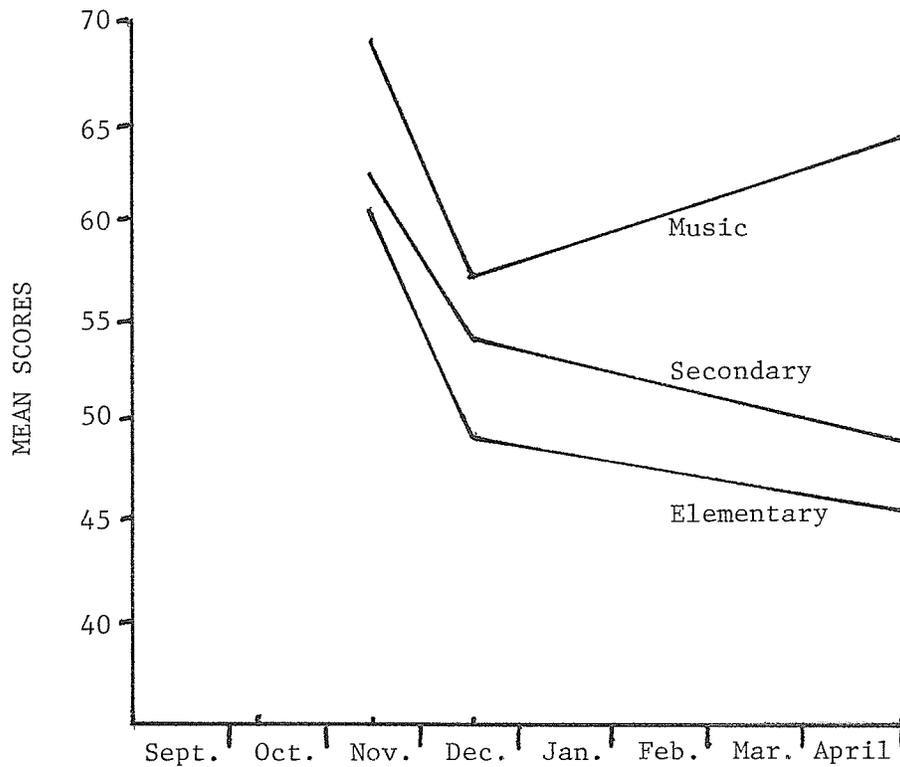
*Separate Variance Estimate used.

mean TCHAS scores for the three different programs were significantly different only at the final testing session (Table 17).

Hypothesis 2.2 predicted that student teachers enrolled in the elementary program would experience higher levels of teacher anxiety than would other student teachers. The data did not support this hypothesis. In this study, the elementary student teachers experienced the lowest TCHAS mean scores.

A very marked increase in TCHAS scores is noted for music students between Testing Sessions 3 and 4. The direction of this

change is opposite to the changing anxiety scores for both elementary and secondary groupings and for the total sample. This sharp increase would account for the significant difference in scores at the final testing session. Student teachers with a music major were required, during the second practicum, to gain some experience teaching in a second subject area. The second practicum was located between testing Sessions 3 and 4. The unfamiliar task of teaching in a non-music subject area may have provided a number of stimuli that the music students perceived as threatening.

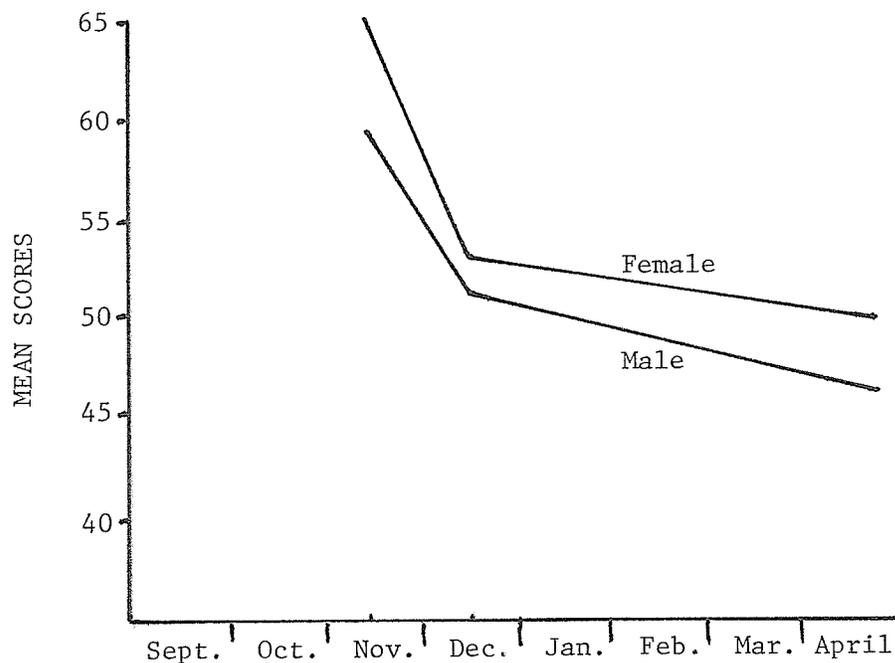


Graph 9

Comparison of TCHAS Mean Scores on
Programs of Student Teachers

Scores according to sex. The mean scores on the TCHAS for the sex

variable have a very similar trend to the mean scores on the A-State scale. Female student teachers had higher mean teacher anxiety scores throughout the student teaching year as revealed in Graph 10. The mean scores on the TCHAS for female student teachers was 65.2 for Testing Session 2, 53.1 for Testing Session 3 and 50.2 for the fourth and final testing session. For males the mean scores were 59.1 at the second testing session, 51.3 at the third testing session and 46.6 at Testing Session 4. As with the A-State scores reported in Graph 5, the difference between sexes was statistically significant only at Testing Session 2. At other testing sessions females had slightly higher mean scores than males but this difference was not significant ($P < 0.05$).



Graph 10

Comparison by Sex of TCHAS Mean Scores

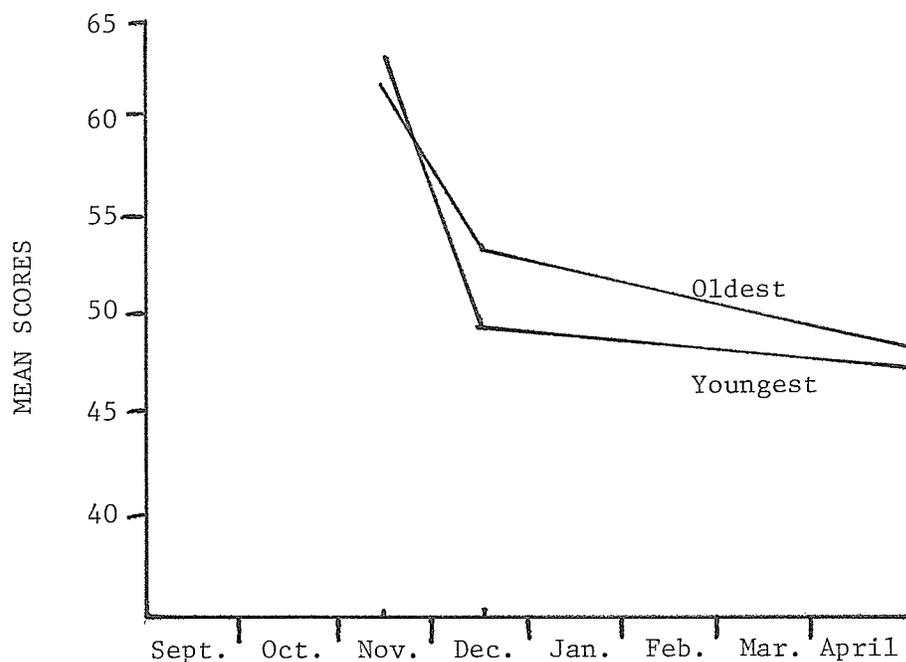
The prediction made in hypothesis 2.3 was that female student teachers would experience higher levels of teacher anxiety than male student teachers. Mean scores for male-female subgroupings tended to support the hypothesis throughout the student teaching year. The hypothesis is supported statistically, however, at only one of the three testing sessions. The hypothesis, therefore, cannot be accepted.

Scores according to age. Graph 11 provides the TCHAS mean scores for the age variable. Younger student teachers, those 21 years of age and younger, had a mean score of 63.1 at Testing Session 2, 49.9 at Testing Session 3 and 48.0 at Testing Session 4. The older subjects had a TCHAS mean score of 61.6 for the second testing session, 54.0 at Testing Session 3 and 48.8 at the fourth and final testing session. Analysis of variance indicated that the differences in TCHAS mean scores were not significant ($P < 0.05$) throughout the student teaching year.

Hypothesis 2.4 predicted that older student teachers would be less prone to high levels of teacher anxiety than the younger student teachers. No clear pattern is revealed in the data. At Testing Session 2, the younger student teachers scored slightly higher in teacher anxiety than the older teachers. The ranking is reversed for the final two testing sessions. In view of the lack of pattern and lack of statistical significance, the hypothesis must be rejected.

The decrease in teacher anxiety scores was greater for younger student teachers during the first practicum, between Sessions 2 and 3. It would appear that during the practicum, the younger student teachers learned to cope with the phenomena that they perceived as threatening

to a greater degree than did the older student teachers.



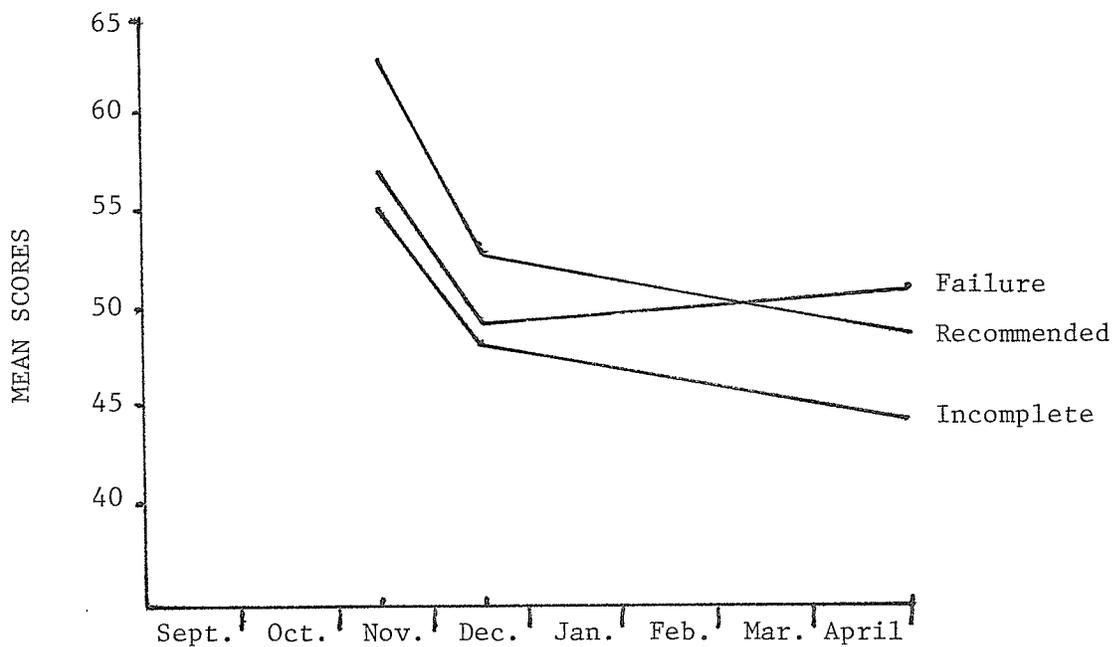
Graph 11

Comparison by Age of TCHAS Mean Scores

Scores according to final standings. For student teachers who received recommendation for certification and those who had earned incomplete standings, the trends of teacher anxiety scores parallels closely the trends set for A-State mean scores (Graph 12). Students who were "recommended" had a mean score of 63.0 at Testing Session 2, 52.6 at Testing Session 3 and 48.7 at Testing Session 4. Students with "incomplete" standings had mean scores of 55.2, 48.5 and 44.2. For students with "failure" standings, the TCHAS mean score at Testing Session 2 as 57.0, 48.5 at Testing Session 3 and 44.2 at the fourth and final testing session. The data did not reveal any statistically significant differences in mean scores ($P < 0.05$) between "recommended,"

"incomplete" or "failure" groupings at any of the three testing sessions (Table 17).

In hypothesis 2.5 the prediction was made that the least successful student teachers, those with a standing of "failure," would have greater teacher anxiety levels. The hypothesis was not supported by the data as no significant differences in the three groups were found at any of the three testing sessions.



Graph 12

Comparison of TCHAS Mean Scores on Final Standings of Student Teachers

Student teachers with "incomplete" standings revealed the lowest levels of teacher anxiety which might again suggest lack of motivation or indifference to the program. There was a noticeable increase in mean scores for "failure" subjects between Testing Sessions 3 and 4, which is the period of time after completion of the first

practicum. This period of time also included the second practicum. It may be that during the second practicum, those student teachers who were experiencing difficulties were feeling pressures from supervising personnel. These conditions undoubtedly cause teacher anxiety to increase as the data has shown.

Summary. Student teachers showed significant decreases in TCHAS mean scores for the periods of time between Testing Sessions 2 and 3 and between Testing Sessions 3 and 4. This basic pattern of decreasing TCHAS mean scores for the total sample was reflected in all subgroups except two. The music program and those who failed, while showing sharp decreases in TCHAS mean scores between Testing Sessions 2 and 3, increased between Testing Sessions 3 and 4. The groupings of program level, sex, age and certification variables did not show consistent differences in mean TCHAS scores.

High A-Trait student teachers scored significantly higher on the Teacher Anxiety Scale than low A-Trait student teachers. Both high and low A-Trait individuals responded with significant decreases in TCHAS mean scores during the student teaching year but only the high A-Trait subjects had significant decreases during the first practicum period of between Testing Sessions 2 and 3. Neither high nor low A-Trait groups showed statistically significant decreases in TCHAS mean scores between Testing Sessions 3 and 4.

State Anxiety Versus Teacher Anxiety

The Pearson Product-Moment Correlation was used to compare the A-State scores from the STAI and the teacher anxiety scores from the TCHAS. The correlations between the STAI (A-State) and the TCHAS

Table 17

Analysis of Variance: One-Way Classification of
Teacher Anxiety Scale Mean Scores (N=91)

Source of Variation	F-Value	Degrees of Freedom		Probability
		Between	Within	
Program Level:				
TCHAS, Session 2	1.344	2	88	0.2660
TCHAS, Session 3	1.861	2	88	0.1616
TCHAS, Session 4	5.489	2	88	0.0057*
Sex:				
TCHAS, Session 2	6.272	1	89	0.0141*
TCHAS, Session 3	0.436	1	89	0.5109
TCHAS, Session 4	1.891	1	89	0.1726
Age:				
TCHAS, Session 2	0.356	1	89	0.5522
TCHAS, Session 3	2.334	1	89	0.1302
TCHAS, Session 4	0.087	1	89	0.7685
Certification:				
TCHAS, Session 2	1.474	2	88	0.2345
TCHAS, Session 3	0.383	2	88	0.6831
TCHAS, Session 4	0.416	2	88	0.6590

*Significant at the 0.05 level of confidence.

range from 0.59 to 0.63 (Table 18). At Testing Session 2, the beginning of the student teaching session, the correlation was 0.59. The correlation coefficient was 0.63 by the end of the student teaching session, or Testing Session 3 and then dropped back to 0.59 by the end of the university year. All correlations between the scores on the two instruments were positive and were significant at the 0.001 level of confidence. These strong positive correlations suggest that the two tests were measuring a common variable and that teacher anxiety as measured by the TCHAS is a specific form of state anxiety. However, the lack of a perfect correlation indicates that there is a portion of the variance in the TCHAS which is not common to State Anxiety as measured by the STAI.

Table 18

Pearson Product Moment Correlation Matrix
of TCHAS and of STAI, A-State Scores

Variable	TCHAS Session 2	TCHAS Session 3	TCHAS Session 4
A-State, Session 2	0.59		
A-State, Session 3		0.63	
A-State, Session 4			0.59

N=91; $P < 0.001$

III. FACTOR ANALYSIS OF THE TEACHER ANXIETY SCALE

One of the objects of this study, presented in Chapter 1, was to determine the expressed concerns of student teachers. A principal factor analysis with varimax rotation and a frequency distribution of

individual test items were used to analyze the student teacher responses to the Teacher Anxiety Scale. The results of the factor analysis are described in this section. An item analysis of the TCHAS is presented in section IV of this Chapter. Analysis of the sources of teacher concerns as expressed through the source questionnaire is also described in section IV.

Testing Session 2: Pre-Practicum

The factor analysis caused eight factors to emerge (see Appendix C). Using the eigenvalue of 1.0 as a level of significance (Rummel, 1970:169), four factors are discussed here (Table 19).

A. Description of Factors

Factor I - Teacher adequacy. The items that load on this factor indicate how well prepared the student teacher was to become a good teacher and they indicate concern for ability to prepare lessons.

Factor II - Job satisfaction. This factor isolated items concerning the suitability of teaching as the most appropriate profession for the student teacher.

Factor III - Student teacher-pupil interaction. The statements loading on this factor relate to the student teacher's response to pupils in specific situations.

Factor IV - Self-adequacy. This factor seems to have grouped items concerned with evaluation of the student teacher's ability to teach.

Table 19

Highest Loadings of 25 Teacher-Anxiety Variables
on Four Varimax Factors for Pre Student Teaching

Item	Factor I	Factor II	Factor III	Factor IV
23	0.79			
17	0.47			
21	0.46			
14	0.45			
5	0.43			
4	0.42			
16		0.73		
6		0.67		
11		0.65		
22			0.68	
15			0.64	
2			0.54	
18			0.43	
19				0.70
8				0.60
3				0.56
24				0.56
25				0.55
7				0.40
1				
9				
10				
12				
13				
20				
Eigenvalues	7.17	1.53	1.21	1.09

a. Loadings $\geq |0.40|$

b. Item loadings on all factors in Appendix.

B. Discussion of the Factors

Teacher adequacy. This factor which accounted for the greatest percentage of the total variability was made up of six items on the TCHAS. Three of the items, numbers 23, 21 and 4, relate to lesson preparation and all three items have very low loadings on the other three factors. The highest loading of all variables, item number 23, relates to the student teacher's concern with deciding how to present information in the classroom. Items number 21 and 4 express anxiety experienced during lesson preparation and concern for the ability to keep students interested in the lessons being presented. The other three items that load significantly on this factor, items numbered 17, 14 and 5, are associated with the student teacher's concern for his/her ability to become a good teacher. The items reflect how well student teachers are prepared for teaching, how they compare to their classmates and how other teachers would view their competency. The loading of lesson preparation and teacher competency on the same factor would seem to indicate that at this point in the student teacher preparation program, student teachers place a heavy emphasis on the skills of lesson preparation as a key to becoming a competent teacher. Student teachers had not experienced the presentation of lessons to school-aged pupils at this point in time and gave lesson preparation a much higher value than items number 9 and 10 which relate to pupils following the student teacher's instructions and class control respectively. Item number 9, relating to the following of the student teacher's instructions loaded at 0.009 and item number 10, concerning class control loaded at 0.128 on this factor.

Job satisfaction. Three items load heavily on this factor. They are items 16, 6 and 11. None of these items load significantly on any other factor. The main concern here seems to be an uncertainty about the intrinsic rewards that would be derived from the teaching profession. Item 16 expressed a concern that the student teacher "didn't know yet whether (he/she) really wanted to be a teacher" while item 6 expressed the uncertainty about finding teaching a satisfying profession. Item 11 showed concern for how happy the student teacher was in teaching compared to his expectations. These items indicate a genuine concern regarding being satisfied in their chosen profession of teaching.

Student teacher-pupil interaction. Three out of four of the items loading on this factor relate to the student teacher's concern about how to handle situations when the student teacher is unable to respond to a pupil or the class. There is a concern expressed, that if it happens, it will affect the student teacher and the remainder of the lesson. The fourth item expresses a concern over the development of rapport with the class. The inclusion of this item in this factor might indicate that the inability of the teacher to be able to answer all questions would affect the relationship that teacher would have with that class.

Self-adequacy. The six items loading on this factor deal with evaluation of the student teacher. The highest loading is item 19 concerning the principal's observation in the classroom. Item 7 is about a parent observing in the classroom. Both of these items would relate to the threat of being judged by another adult. Two items, items 3

and 24 express concern for the student teacher's confidence when speaking before a group or class. The other two items relate the student teacher's self-evaluation as a teacher and a comparison to the other preservice teachers in the same teacher preparation program.

Testing Session 3: Post-Practicum

The factor analysis of the Teacher Anxiety Scale at the conclusion of the first practicum resulted in six factors emerging. Using the eigenvalue of 0.98 as a level of significance (Rummel, 1970: 169), four factors are again discussed (Table 20).

A. Description of Factors

Factor I - Teaching competency. This factor has isolated many of the same items that were included in "Teacher Adequacy" with the addition of items concerning evaluation of the student teacher by supervisory personnel.

Factor II - Career confidence. This factor is almost identical to "Job Satisfaction" with the addition of a self comparison to the peers of the student teacher.

Factor III - Interpersonal relationships. The items loading on this factor are associated with the student teachers' relationships with the class and parents.

Factor IV - Self-assurance. This factor is similar in many ways to "Student Teacher-Pupil Interaction." It appears to have isolated items concerning the ability of the student teacher to handle situations in front of a class.

Table 20

Highest Loadings of 25 Teacher Anxiety Variables on
Four Varimax Factors for Post Student Teaching

Item	Factor I	Factor II	Factor III	Factor IV
21	0.65			
19	0.64			
17	0.64			
14	0.54			
23	0.45			
12	0.41			
9	0.40			
16		0.89		
11		0.72		
6		0.62		
8		0.40		
13			0.65	
7			0.59	
1			0.56	
10			0.46	
2				0.79
15				0.61
24				0.46
3				
4				
5				
18				
20				
22				
25				
Eigenvalues	8.16	1.61	1.11	0.98

a. Loadings $\geq |0.40|$

b. Item loadings on all factors in Appendix.

B. Discussion of Factors

Teacher competency. This first factor has isolated seven items on the TCHAS. The factor includes four of the six items that made up "Teacher Adequacy" in the pre practicum. These items, items numbered 14, 17, 21, and 23, are associated with anxiety about lesson preparation and the student teacher's concern about the ability to be a good teacher. This factor includes an element of concern that was not associated with "Teacher Adequacy" of the pre practicum. This concern was one of personal evaluation by supervisory personnel--namely the principal and the college supervisor--and self-evaluation about how well students were following the instructions of the student teacher.

Career confidence. Since this factor contains all three items that loaded on "Job Satisfaction" from the pre practicum, it would seem that the practicum did little to convince the student teachers of the suitability of the teaching profession as a career. Item number 16 loads very highly on this factor (0.89) and expresses anxiety relating to the uncertainty about really wanting to be a teacher. Items 11 and 6 deal with personal satisfaction in teaching. Items 16 and 11 both load higher on this factor than they did on "Job Satisfaction." One additional item appears with this factor. Item number 8 is an expression of inferiority in relation to the other preservice teachers in the same teacher preparation program.

Interpersonal relationships. Four items load on this factor. Item 13, which loads the heaviest on this factor, relates to the student teacher's self-confidence in the ability to improvise in the classroom.

Item 10 refers to the anxiety associated with the ability of the student teacher to maintain class control. The remaining two items loading on this factor, items 7 and 1, refer to concerns about a parent observing in the classroom and the holding of parent-teacher conferences. The four items that load significantly on this factor seem to have the common element of concern for the ability of the student teacher to relate with those directly affected by the student teacher. The items are associated with confidence in relating to students in a positive way and also the ability to relate to the students' parents. Success in teaching often depends upon acceptance of the teacher by both the students and the parents of the students. The items loading on this factor indicate that, following the first practicum, the student teachers have recognized this aspect of teaching as an important element in becoming a successful teacher.

Self-assurance. The three items that load significantly on this factor all express concern for the ability of the student teacher to react spontaneously to academic situations in the class. Item number 2 which has the highest loading on this factor refers to the concern of the student teacher about being able to proceed effectively with the lesson after experiencing difficulty in answering a student's question. Item number 15 refers to the anxiety associated with being unable to answer a student's question while item 24 refers to self-confidence in recall of subject matter when in front of the class. None of the three items load significantly on any of the other factors. The items loading on this factor reflect the qualities of a mature and confident teacher and it is not surprising to find these concerns among pre-

service teachers who have just completed their first attempt at translating theory into practice.

Testing Session 4: The Student Teaching Year End

When the TCHAS results from the conclusion of the student teaching year were factor analyzed, six factors again emerged. Using the eigenvalue of 0.90 as a cut off for significant factors, four factors are presented in Table 21.

A. Description of Factors

Factor I - Professional capacity. This factor groups items that compare the student teacher's abilities with those of other preservice teachers. It also includes concerns about relationships with both students and parents.

Factor II - Career satisfaction. This factor is very similar to "Job Satisfaction" and "Career Confidence" in Testing Sessions 2 and 3 respectively. The factor isolates items that express a concern for the suitability of the teaching profession as a career.

Factor III - Teaching performance. The items that load on this factor group together some of the qualities of a successful teacher. Items refer to the ability to work with students, parents and other professionals.

Factor IV - Functional skills. This factor includes items referring to lesson preparation skills. It includes self-satisfaction attained in teaching.

Table 21

Highest Loadings of 25 Teacher Anxiety Variables
on Four Varimax Factors for the Year End

Item	Factor I	Factor II	Factor III	Factor IV
17	0.60			
1	0.58			
25	0.55	0.42		
8	0.50			
14	0.48			
18	0.43		0.49	
16		0.84		
11		0.67		
6		0.46		0.46
21			0.62	
5			0.60	
9			0.56	
19			0.53	
10			0.52	
20			0.51	
7			0.51	
4				0.74
23				0.55
2				
3				
12				
13				
15				
22				
24				
Eigenvalues	8.24	1.49	1.24	0.90

a. Loadings $\geq |0.40|$

b. Item loadings on all factors in Appendix C.

B. Discussion of Factors

Professional capacity. This factor which accounts for the greatest percentage of variability, is made up of six items, three of which include a comparison of self to other preservice teachers in the teaching preparation program. Item number 17 expresses concern over how well the student teacher is prepared for teaching compared to other preservice teachers. Item number 25, which also loads on Factor II, relates to competence in the classroom compared to other preservice teachers. Item 8 expresses a concern of being inferior to other preservice teachers. The administration of the TCHAS in April coincided with teacher-recruitment time and may have reflected the job competition through these three items. Item number 14 also loads on this factor and expresses a concern for the competency of the student teacher as viewed by other teachers. This item could reflect the concern for the fact that cooperating teachers are asked for letters of references on student teachers by hiring personnel. Item number 1 reveals the feelings of anxiety about holding parent-teacher conferences and reflects the ability of the student-teacher to deal with a problem-solving situation. Item number 18, which also loads on Factor III is a concern for the ability to develop rapport with students. These six items seem to reflect the student teacher's covert feelings about his/her abilities to fulfil professional demands.

Career satisfaction. Factor II is made up of four items. Three of the items, 6, 11 and 16, are the items that make up the Factor "Job Satisfaction" from the pre practicum administration of the TCHAS. These items relate to an uncertainty about the teaching profession as a

career. Item number 6, which refers to the satisfaction in teaching also loads significantly on Factor IV. In addition to these three items, Factor II includes item 25 which expresses concern for teacher competency in comparison to other preservice teachers in the program. This item also loads significantly on Factor I. Item number 16 has the highest loading coefficient of any item and emphasizes the anxiety about whether or not the student teacher really wants to be a teacher.

Teacher performance. Eight items load on this factor and group together many of the evaluative elements of teaching. Item number 19 expresses the anxiety associated with the principal observing in the classroom while item 7 refers to a parent observing the class. Item number 5 adds self evaluation because it expresses a worry about being able to become a good teacher. Item number 20 refers to the student teacher's anxiety in participating in staff room discussions. Items 9, 10, 18 and 21 are associated with many of the observable aspects of teaching that are often mentioned in teacher evaluation reports. Items 10 and 18 relate to class control and student rapport respectively while item 9 focuses on students following the teacher's instructions. Item 21 adds the ability of the teacher to keep the students interested in the lesson. These eight items reflect the student teacher's anxiety about his/her ability to perform as a teacher in the classroom.

Functional skills. Two of the three items loading on Factor IV isolate lesson preparation anxieties. Item 4 expresses the anxiety experienced during lesson preparation while item 23 concerns the anxiety associated with deciding on presentation methods. The third

item, item 6, expresses the uncertainty as to the satisfaction to be gained in teaching and reflects the anxieties that are projected in the daily preparation of lessons in the future.

Discussion of Factor Analysis

The first four factors were analyzed for each administration of the Teacher Anxiety Scale. With the first factor of each testing session providing the most prominent cluster of characteristics, the major concern of the student teacher prior to his/her first practicum was a cluster relating to being prepared adequately for the job of teaching. Included in this cluster were concerns about lesson preparation. The first factor of the post practicum data revealed continued concerns for lesson preparation skills but items relating to the evaluative aspect of teaching were added to this cluster. Also included were items indicating student teaching concerns about the principal and the college supervisor in the classroom. By the end of the student teaching year, the items which clustered in Factor I no longer showed concern for the specifics of lesson preparation. Factor I at Testing Session 4 reflected concerns for jobs at this pre-employment period. Four of the six items in this cluster revealed concern for personal ability as a teacher compared to other student teachers with whom job competition would develop.

In terms of the six stages of development as outlined by the Texas Project which is described in Chapter 2 of this thesis, the student teachers at Testing Sessions 2 might be considered at Stage I of their development, the "where do I stand?" stage. Testing Session 3 would place the students at Stage IV, the "how do you think I'm

doing?" stage. The pre-employment data would correspond to Stage VI of the Texas Project. This stage is called the "who am I?" stage.

Factor II from each of the three testing sessions contained three common items. These items reflected uncertainty about the choice of teaching as a profession. At the last two testing sessions, an additional item reflected a feeling of insecurity and lack of self-confidence. These items may have been added to the cluster as a result of having observed experienced teachers during the practicum, thus bringing about a feeling of inferiority or inadequacy.

Factor III of Testing Session 2 grouped together student teacher-pupil rapport with three items reflecting the inability of the student teacher to answer the questions of the class. By the end of the first practicum, the item concerning rapport with pupils was no longer included in this cluster which is reported as Factor IV. By the end of the student teaching year, pupil-teacher rapport is grouped with items that refer to the pupil responding to the student teacher's performance. It would appear that during the first practicum session, student teachers had come to realize that the ability to "know all the answers" is not necessarily the most important ingredient to establishing student-teacher rapport. By the end of the year the student teacher seems to have recognized that pupil-teacher rapport is related more closely to a two-way interactive process than one of the teacher being the authority.

IV. ITEM ANALYSIS

An item analysis on the Teacher Anxiety Scale was carried out in an attempt to determine if any one item on the TCHAS reflected a

major concern to the student teachers. The item analysis was applied for each of the three testing sessions. The Source Questionnaire which was administered only at the pre-practicum testing session was also item analyzed. The Source Questionnaire also gave students an opportunity to list concerns about student teaching that were not mentioned in the TCHAS.

Teacher Anxiety Scale

Respondents on the TCHAS were asked to rate their anxiety levels on each concern on a Likert-Type Scale ranging from (1) of minimum anxiety to (5) of maximum anxiety. Table 22 shows the mean scores for each item on the TCHAS.

At the pre-practicum testing session, respondents rated item 12 as their highest concern with an item mean score of 3.220. Item 12 accounts for anxiety associated with being observed by the college supervisor. The second highest item mean score was item 17 comparing how well prepared for teaching the student teacher considered him/herself to be in relation to the other preservice teachers in the same teacher preparation class. The item mean score for item 17 was 3.176. Item 19 ranked third with a mean score of 3.077. This item considers the anxiety associated with the principal observing in the classroom. The fourth ranked item, item 7, had an item mean score of 3.033 and refers to the presence of a parent in the classroom. Item 5 and 21 had mean scores of 2.956. They are associated with a concern for the ability to be a good teacher and the ability to keep students interested in the lesson respectively.

During the post practicum session, item 17 ranked as the high-

Table 22

TCHAS Item Mean Scores (N=91)

Item	Testing Session 2 (Pre-practicum)	Testing Session 3 (Post-practicum)	Testing Session 4 (Pre-employment)
1	2.571	2.121	2.044
2	2.429	1.989	1.856
3	2.802	2.247	2.231
4	2.220	1.813	1.703
5	2.956	2.330	2.077
6	1.846	1.560	1.604
7	3.033	2.429	2.154
8	2.187	1.681	1.582
9	1.967	1.901	1.747
10	2.297	1.923	1.813
11	1.857	1.538	1.582
12	3.220	2.363	2.286
13	2.578	2.200	1.989
14	2.604	2.297	2.121
15	2.233	1.835	1.725
16	1.912	1.593	1.560
17	3.176	2.844	2.527
18	2.275	1.733	1.538
19	3.077	2.505	2.209
20	2.522	2.176	2.011
21	2.956	2.659	2.462
22	2.121	2.011	1.923
23	2.890	2.516	2.242
24	2.484	1.978	1.912
25	1.890	1.758	2.659

est concern. Item 17, which refers to how well prepared for teaching the student teacher is compared to other student teachers and had a mean score of 2.844. Item 21 had a mean score of 2.659 and expresses anxiety about the teacher's ability to keep students interested in the lesson. The third ranked item, item 23 had a mean score of 2.516 and refers to deciding how to present information in the classroom. Item 19 was ranked fourth by respondents with an item mean score of 2.505 and concerns the presence of the principal in the classroom. The fifth ranked item was item 7 with a mean score of 2.429 and refers to a student's parent in the classroom. Item 12 had a mean score of 2.363 and expresses concern over the college supervisor as a classroom observer.

The pre-employment testing session showed item 25 to be the strongest concern with an item mean score of 2.659. This item is about competency in the classroom compared to other preservice teachers. Item 17 ranked second with a mean score of 2.527 and is concerned with how well prepared for teaching the student teacher perceives himself to be in comparison to other preservice teachers. The ability to keep the students interested in the lesson, item 21, was third ranking with a mean score of 2.462. Item 12 concerning the observation of the college supervisor was fourth with a mean score of 2.286 while item 23 was fifth with a mean score of 2.242. This item relates to deciding how to present information in the classroom. Item 3 was sixth ranked with a mean score of 2.231. This dealt with the anxiety associated with speaking before a group.

Hypothesis 4.0 predicts that student teachers have specific anxiety causing concerns during the student teaching year. At Testing

Session 1, the item mean scores ranged from 1.846 to 3.220 (Table 21, p. 97). This range indicates that there is in fact a differential degree of concern for the various items of the TCHAS. The high correlation between the TCHAS and the STAI, A-State scores suggests that these concerns are anxiety causing concerns. Therefore the hypothesis is accepted.

Discussion. Three items appeared to be major concerns of student teachers by the ranking given to six items of all three testing sessions. These were items 12, 17 and 21 and reflect three basic categories of items that ranked highest throughout the student teaching year. Items concerning supervision of the student teaching experience such as item 12, about the presence of the college supervisor in the classroom, were of foremost concern early in the student teaching year. Item 17 which relates to how well prepared for teaching the student teacher has become compared to other student teachers suggests that job competition is a concern throughout the student teaching year. The emergence of similar items that are ranked highly indicate increasing concern in this area by the end of the student teaching year. The third category of concerns that spans the student teaching year is the concern for a positive working relationship with students. Item 21 which refers to the ability to keep students interested in the lesson reflects this category which seems to be of greatest concern immediately following the first practicum.

Supervisory personnel such as the college supervisor and the principal have the responsibility, not only for recommending the student teacher for a teaching certificate but for employment. This

condition would tend to make their presence in the classroom a threatening experience at anytime during the student teaching year. The situation would have been more desirable if these supervisory personnel could have been viewed as primarily a resource to the learning of skills rather than as an evaluator. The motivation for finding a suitable teaching position at the conclusion of the student teaching year would have, in all probability, remained a strong concern of student teachers in times of a teacher surplus. The investments in terms of time and economic resources to gain the prerequisites to the student teaching program are substantial. Student teachers who have had their first exposure to the classroom soon come to know that the successful teacher must present well prepared lessons that consistently capture the interest of the class.

Source Questionnaire

The source questionnaire asked the student teachers to identify the source of their concern as expressed on each item of the TCHAS as "seen," "heard," "imagined," "unknown" or "other." Those who identified the source as "other" were asked to describe the source. Student teachers with concerns not covered by the TCHAS were asked to list them at the end of the questionnaire.

Table 23 shows the frequency distribution of the responses on the source questionnaire for each item of the TCHAS while Table 24 displays the percentage responses for each category of seen, heard, imagined, unknown or other. The most frequently indicated source of concern was "imagined." A total of 728 out of a possible 2,275 responses or 32.0 per cent designated their concerns were as a result

Table 23

Frequency Distribution of Self Expressed Sources of Teacher
Concerns from Items on the Teacher Anxiety Scale

Item	Seen	Heard	Imagined	Unknown	Other
1	10	40	22	9	10
2	24	9	28	12	18
3	22	5	14	4	46
4	21	15	19	11	25
5	23	11	42	7	18
6	29	13	30	8	11
7 ^a	7	17	48	13	5
8	44	12	16	8	11
9	26	10	32	7	16
10	26	8	23	11	23
11	20	9	37	10	15
12	11	31	37	5	7
13	23	7	35	14	12
14	9	23	38	15	6
15	15	9	40	9	18
16	23	8	30	11	19
17	55	12	8	6	10
18	27	8	25	7	24
19	4	24	51	8	4
20	29	12	22	12	16
21	19	15	38	11	8
22	20	13	27	10	21
23	17	21	29	13	11
24	24	8	17	15	27
25	39	18	20	2	12
Totals	557	358	728	238	393

a. One subject did not respond to item 7.

Table 24
Sources of Teacher Anxiety as Expressed on TCHAS

	Seen	Heard	Imagined	Unknown	Others
Total Sample, N=91	24.5%	15.7%	32.0%	10.5%	17.3%
Elementary, N=41	24.9%	18.0%	29.8%	11.9%	15.5%
Secondary, N=45	25.2%	13.4%	33.2%	9.8%	18.3%
Music, N=5	14.4%	17.6%	40.8%	4.8%	2.4%

of something they were imagining. The second most frequent source was that of "seen" with a total of 557 or 24.5 per cent of the responses. "Other" sources accounted for 17.3 per cent while "heard" was reported at 15.7 per cent and "unknown" as 10.5 per cent. If the data are analyzed by elementary, secondary and music variables, the sources remain very much in the same general ranking order with only small variations for those in the music program (N=5). "Imagined" was the most frequent source listed for elementary, secondary and music with percentage responses of 29.8, 33.2 and 40.8 respectively. "Seen" was reported in 24.9 per cent of the cases for elementary and 25.2 per cent of the cases for secondary but only 14.4 per cent of the cases for the music cell. The third ranking for elementary and secondary but the second ranking for music was "other." This category was the reported source in 15.5 per cent of cases for elementary student teachers, 18.3 per cent for secondary and 22.4 per cent for music. "Heard" was indicated in 18.0 per cent of cases for elementary and 13.4 per cent for secondary. Music students indicated that the

source was something they had heard in 17.6 per cent of the cases. "Unknown" represented 11.9 per cent of cases for elementary, 9.8 per cent for secondary and 4.8 per cent for music student teachers.

Item 12 of the TCHAS was indicated as the item of highest item mean score at the pre-practicum testing session. Table 23 shows that the source of this anxiety was reported as something "imagined" by 37 out of the 91 or 40.7 per cent of the subjects. It further indicates that 31 out of 91 or 34.1 per cent of the subjects had indicated the source to be something "heard." Together, these two categories account for 74.8 per cent of the source of anxiety. Item 19 was listed as the third highest anxiety item and was concerned about the principal observing in the classroom. For this item 51 out of 91 or 56.0 per cent of the sources were listed as "imagined" and 24 out of 91 or 26.4 per cent as something "heard." This combines for a total of 82.4 per cent of the sources of anxiety.

Hypothesis 5.0 predicted that student teacher concerns are most frequently caused by unknown fears which are products of the student teacher's imagination. The data reveal that "imagined" is the most frequently indicated source of concern at Testing Session 2. Testing Session 2 was immediately prior to the first practicum. Hypothesis 5.0 can therefore be accepted for student teachers about to commence their first practicum.

Additional data. A total of 393 of the 2,275 responses to questions on the source questionnaire indicated "other" as the source of their anxieties. Table 29 in Appendix C presents the sources listed as "other" sources and their frequencies. The most frequently mentioned

source was some personal experience. "Experienced" was reported in 261 of the items. This was followed by "self-confidence" with a frequency of 35, "felt" with a frequency of 25 and personal thoughts 14. "Insecurity in dealing with adults was reported in 11 cases and "relating to people" in 10 items. All other items had a frequency of six or less.

A number of qualifying statements were reported with the source "experienced." Some of the experiences that affected student teacher's feelings about the items on the Teacher Anxiety Scale were: training in the faculty of education, teaching piano lessons, working with children's clubs, former professions, previous work with children, talking to groups of people, public speaking, working with adults, classroom practicum and micro teaching, YMCA work, nervousness when working with older people, summer camp counsellor and swimming instructor. These statements illustrate the varied backgrounds of student teachers and are an indication of how past experiences affect the perceived threat of student teachers when dealing with the many and varied teaching tasks.

Student teachers listed a variety of concerns that were not mentioned in the Teacher Anxiety Scale. They are listed in Table 30 of Appendix C. The most frequent mentioned concern was one involving the evaluation of pupils in the classroom. Five student teachers reported this item as a concern. Four student teachers listed "methods and criteria used by supervising faculty for grading student teachers." The relevancy of the professional courses to the classroom situation was mentioned as a concern by three student teachers. However, these concerns were stated prior to the practicum and may have

been premature. Student teachers reported on three occasions a concern for the fact that university professors were giving assignments and term papers related to professional courses that were to be completed during the practicum. These student teachers were expressing a concern for time demands being placed on them that would probably interfere with time required for lesson preparation. Four student teachers expressed concern over the interrelationships that might develop between the student teacher and the cooperating teacher. On two occasions student teachers reported that having to serve many masters (i.e., the cooperating teacher, the supervising faculty, the principal and the students) was a concern to them. Two teachers also reported that the rapport they establish with other teachers in the school was of concern. A number of other concerns were expressed by the respondents with unit frequency. These concerns are listed in Table 30 of Appendix C.

V. SUMMARY

A total of 20 hypotheses were tested against the data collected in the four testing sessions. Eight out of 20 hypotheses were accepted. The findings are summarized in Table 25. The probability level of 0.05 was chosen for acceptance or rejection of hypotheses.

The relationship between levels of A-State as measured by the STAI and variables of time, program level, sex, age and certification were predicted in hypotheses 1.0 to 1.6. Hypothesis 1.1 predicted an increase in A-State levels for the period of time prior to the first practicum. The data, however, revealed a statistically significant decrease in A-State scores for this period and the hypothesis, there-

Table 25

Summary of Results of Hypotheses Tested

Hypothesis	Variables	Results
1.0	levels of A-State vs. time and other variables	rejected
1.1	levels of A-State during pre-practicum	rejected
1.2	levels of A-State during first practicum	accepted
1.3	levels of A-State vs. certification	rejected
1.4	levels of A-State vs. age	rejected
1.5	levels of A-State vs. sex	rejected
1.6	levels of A-State vs. program level	rejected
2.0	levels of teacher anxiety and other variables	rejected
2.1	levels of teacher anxiety over student teaching year	accepted
2.2	levels of teacher anxiety vs. program level	rejected
2.3	levels of teacher anxiety vs. sex	rejected
2.4	levels of teacher anxiety vs. age	rejected
2.5	levels of teacher anxiety vs. certification	rejected
3.0	levels of A-State vs. levels of teacher anxiety	accepted
4.0	possession of concerns	accepted
5.0	sources of concerns	accepted
6.0	levels of A-Trait vs. teacher anxiety	accepted
6.1	high and low A-Trait vs. teacher anxiety	accepted
6.2	high A-Trait vs. teacher anxiety	accepted
6.3	low A-Trait vs. teacher anxiety	rejected

fore, was rejected. Hypothesis 1.2 predicted a decrease in A-State levels during the first practicum and this prediction was supported by the data and the hypothesis was accepted. The data revealed a significant decrease in A-State scores for both the periods between Testing Sessions 2 and 3 and Testing Sessions 3 and 4. The investigation failed to find consistently significant differences in levels of A-State for variables of program level, sex, age or certification and hypotheses 1.3 to 1.6 were rejected. Statistically significant differences between subgroupings were found for only one out of the four testing sessions for variables of certification, age and sex and none for program level. Hypothesis 1.0 which summarized hypotheses 1.1 to 1.6 was rejected as the majority of the component parts were not found to be significant.

Hypotheses 2.0 to 2.5 examined the relationship between levels of teacher anxiety as measured by the TCHAS and the variables of program level, sex, age, certification and time. Hypothesis 2.1 predicted a decrease in teacher anxiety scores over the student teaching year. The data supported this hypothesis. Not only was a statistically significant decrease found for the period of time between Testing Sessions 2 and 4, but also for each of the two intermediate time frames of the first practicum session and the period of time between Testing Sessions 3 and 4. The data did not reveal statistically significant differences in TCHAS levels between the subgroupings established by program level, sex, age or certification variables stated in hypotheses 2.2 to 2.5. The general decreasing trends in teacher anxiety established for the total sample were reflected in nearly all of the subgroupings as illustrated in Graphs 9 to 12

(pp. 80-84). The exceptions were for the subgroupings of students with music majors and those respondents who failed. These student teachers demonstrated an increase in teacher anxiety levels between the completion of the first practicum and the year end or between Testing Sessions 2 and 4. Hypothesis 2.0 was an all inclusive statement encompassing all the variables examined by hypotheses 2.1 to 2.5. Since only the time variable produced a significant difference in TCHAS levels, hypothesis 2.0 was rejected.

Hypothesis 3.0 predicted a significant correlation between scores on the Teacher Anxiety Scale and scores on the A-State scale. The Pearson Product Moment Correlation gave correlation coefficients significant at the 0.001 level, thus the hypothesis was accepted. The strong correlation was reflected in the comparison of the A-State mean scores and those of TCHAS mean scores for the variables of age, sex, program level and certification. The basic trends established on one instrument were very similar to the trends of the other. Also the subgroups that scored highest on the TCHAS also scored the highest on the A-State scale. For the sex variable, it had been predicted that females would score higher on both scales than male. While the relationship was not statistically significant, the females did score consistently higher than males on both scales. Other trends that were not predicted by the hypotheses were also consistent on both the TCHAS and the A-State scales. For age variable, the younger students scored lower than the older students while for certification variable, the students granted an incomplete standing scored lowest for all three testing sessions on the TCHAS and at three out of four sessions on the A-State. Student teachers in the music program recorded increasing

scores on both scales between the end of the first practicum and the end of the student teaching year.

Hypothesis 4.0 which predicted the existence of anxiety-causing concerns was supported by two sets of data. The item analysis of the TCHAS revealed variations in item mean scores corresponding to variations in concerns which vary through the student teaching year. The high correlation between A-State scores and scores on the TCHAS were measuring a form of state anxiety. These two sets of data, therefore measure a common construct.

Hypothesis 5.0 predicted that the source of student teacher concerns would be their imagination. The item analysis of the Source Questionnaire revealed that the highest percentage of all concerns listed was the imagination of the student teachers with 32.0 per cent of all responses in this category. The hypothesis was therefore accepted for the concerns measured at Testing Session 2.

Relationships between Trait anxiety and teacher anxiety were predicted in hypotheses 6.0 to 6.3. Hypothesis 6.1 predicted that high A-Trait student teachers would experience higher levels of teacher anxiety than low A-Trait subjects. The hypothesis was tested at each of the three testing sessions. The difference in TCHAS mean scores was significant at two of the three testing sessions and was very close to the 0.05 level of significance for the third testing session. On the basis of this analysis, the hypothesis was accepted. Hypothesis 6.2 predicted that high A-Trait subjects would experience decreases in teacher anxiety over the student teaching year and the hypothesis was accepted. Hypothesis 6.3 predicted that low A-Trait subjects would not experience a significant change in teacher anxiety

over the year. The data revealed that the low A-Trait individuals did experience a significant decrease over the student teaching year and the hypothesis therefore, was rejected. There was a difference between high and low A-Trait individuals in the pattern of responses to the TCHAS. For high A-Trait subjects there was a significant decrease in TCHAS scores between Testing Sessions 2 and 3 (the first practicum) but for low A-Trait student teachers no significant difference was found for either the period between Testing Sessions 2 and 3 or between Testing Sessions 3 and 4.

At Testing Session 2, a factor analysis of the item responses of the TCHAS grouped items about lesson preparation and the ability to be a good teacher on Factor I. At the third testing session, Factor I revealed that in addition to lesson preparation items and items on the ability to be a good teacher, an evaluative element was added. The items that loaded on this dimension included items about the college supervisor and principal observing in the classroom. Factor analysis of the items of the TCHAS after Testing Session 4, revealed a shift in concerns. Items grouped in Factor I appear to compare the individual with the competency of other student teachers. There seemed to be a transition through the first factors from a position of being able to function as a teacher in the classroom early in the year to a position of concern for being evaluated as a teacher. By the end of the student teacher year the primary cluster of items reflected the competition for jobs.

The item analysis of the TCHAS revealed similar concerns being expressed. The item analysis revealed basic concerns about supervisors, relationships with students and the competition for jobs. Five

of the six top ranked items in the item analysis also appear in Factor I of Testing Session 3. Some of the top ranked items from Testing Session 2 did not appear in Factor I. Items about the presence of the college supervisor and principal observing in the classroom are examples. At this testing session, concerns for the relationship between the student teacher and the cooperating teacher were written in.

A changing attitude about the ingredients of teacher-pupil rapport was revealed in the factor analysis. At Testing Session 2 the concern for teacher rapport was included in a cluster of items that related to the inability of the teacher to answer the pupil's questions. At Testing Session 3, this same item on rapport was grouped with items that referred to the pupil responding to the teachers performance. The changing of clusters indicates a changing of attitudes from one of the teacher being master to one of the teacher and pupil interacting and working together.

At Testing Session 2, student teachers indicated that the majority of their concerns about student teaching were as a result of something "imagined" or something "seen." When student teachers indicated a high frequency of "seen" sources, it may have reflected anxiety caused by the very brief classroom observation period prior to the first practicum. Students indicated that they had not been given an opportunity to discuss their observations. Over 75 per cent of the concerns about supervisory personnel were the result of something either "imagined" or "heard."

Chapter 5

SUMMARY, FINDINGS, CONCLUSIONS AND IMPLICATIONS

I. SUMMARY

Theoretical Framework

Since the development of the Manifest Anxiety Scale in 1951, thousands of studies have been carried out on anxiety in humans. However, much of the research has produced conflicting results. Some of these inconsistencies have been attributed to the fact that anxiety is far too complex to be viewed as a single construct. The State-Trait concept of anxiety separates the phenomenon of anxiety into two very distinct constructs and differentiates between Trait Anxiety, that which identifies individual differences in anxiety proneness, from State Anxiety or situational anxiety which varies with the threat perceived by the subject.

In this study the State-Trait theory was utilized in an examination of the very specific anxiety related to teaching and in particular to student teaching.

Purpose of the Study

The preservice teacher is placed in a situation of learning to translate the theory of professional training into practice. The preservice period is designed to provide some knowledge of the theory of learning, accepted methods of teaching students of different age levels and methods of evaluating student progress. The student

teacher is then expected to combine this knowledge with an academic background to present meaningful, well developed lessons in a classroom setting. In the process the student teacher is confronted with problems associated with the teaching tasks for the first time. In many cases the professional preservice training is a short one and individuals are abruptly transformed from student to teacher. The student teacher goes through this experience knowing that the success of the transition will for a very large part determine employment opportunities. The process is undoubtedly anxiety producing.

This study was undertaken in order to determine the anxiety levels throughout the student teaching year, and to determine if student teachers with different characteristics experience different levels of anxiety. The characteristics that were examined were sex, age, program, success in the program and anxiety proneness (A-Trait levels). Another purpose of the study was to determine the nature of anxiety producing concerns and to determine some of the sources of these concerns.

Instrumentation

Two instruments were used in the study to determine the levels of anxiety during the student teaching year. The State-Trait Anxiety Inventory was used to identify trait anxiety and the levels of state anxiety at the various times of the year. The inventory is a paper and pencil test where respondents are asked to identify their feelings on a four point scale. The Teacher Anxiety Scale was also used to identify levels of anxiety that are specific to the teaching profession. The Teacher Anxiety Scale is a paper and pencil test that asks

respondents to rate their level of agreement to the statements on a five point scale. This scale also provided an indication of some of the anxiety producing concerns of the student teachers at the different times during the student teaching year. A third questionnaire, the Source Questionnaire was developed to determine the sources of the concerns expressed on the Teacher Anxiety Scale.

Population and Data Collection

The population consisted of 161 student teachers who were enrolled in the Certification Year or Student Teaching Year at Brandon University during the 1975-76 academic year. Data were collected at four specific times during the student teaching year. The first testing session was conducted during the first week of classes in September. The second testing session was held just prior to the first practicum in November and the third session at the conclusion of the first practicum in mid-December. The fourth and final testing session was held at the conclusion of the student teaching year at the end of April. The sample used for the statistical analysis consisted of the 91 subjects who had responded to all the instruments required at each of the four testing sessions. The instruments were administered at the University by the researcher for the first two testing sessions and by the principal or an appointed staff member of the school in which the practicum was being held for the final two testing sessions.

Statistical Treatment

Four basic statistical procedures were used: (1) t-tests were used to examine differences in anxiety levels at the four different testing sessions; (2) the differences in the anxiety levels of student

teachers with different characteristics was examined by a one-way analysis of variance; (3) responses on the 25 item Teacher Anxiety Scale were factor analyzed to determine the nature of student teacher concerns at the pre-practicum, post-practicum and pre-employment testing sessions; (4) an item analysis of the Teacher Anxiety Scale was utilized to examine the responses for specific high anxiety items. This method was also used to determine the source of anxiety causing concerns as revealed through the Source Questionnaire.

II. FINDINGS

The data have revealed that the levels of both state anxiety as measured by the State-Trait Anxiety Inventory and teacher anxiety as measured by the Teacher Anxiety Scale decreases over the student teaching year. Anxiety levels are highest at the beginning of the student teaching year and decrease during the initial theoretical part of the student teaching year. Anxiety levels also drop significantly during the first student teaching session, to a greater extent than during the pre-practicum session.

There are no statistically significant differences in levels of student teacher anxiety, as measured by either the STAI, A-State scale or the TCHAS for subgroups formed by the variables of sex, age, program level or success in the program as measured by certification recommendations. These groupings do, however, reflect the same decreasing trends established by the total sample. There is a significant difference on TCHAS scores between student teachers who score high on the STAI, A-Trait scale and those who score low on the A-Trait scale. Also, high A-Trait student teachers were found to respond to

both the theoretical and the practical treatment sessions with greater decreases in anxiety levels than low A-Trait student teachers.

In concurrence with Fuller's developmental stages of student teachers, it was found that the nature of the concerns of student teachers varies as the student teaching year progresses. Prior to attempting the first practical training session, student teachers reported basic concerns about lesson preparation skills, positive personal relationships with cooperating teachers and fear of supervisory personnel such as the college supervisor and the principal. By the end of the first practicum, when the first student teaching report is submitted to the University, student teachers expressed increasing concern about lesson preparation skills and show continued concern for the presence of supervisory personnel in the classroom. By the end of the student teaching year, the need for a teaching position is reflected by the increasing concern for personnel competency in comparison to other student teachers.

The sources of concerns expressed on the Source Questionnaire were examined at Testing Session 2 only, immediately prior to the first practicum. Students reported the sources of "imagination" and "seen" as the most frequent sources of their feelings. Previous experiences in community groups and organizations were frequently associated with the choice of "other" on the Source Questionnaire.

One student teacher indicated, at the conclusion of the student teaching year, that his involvement in the project had helped him focus on his own personal concerns. By indicating personal concerns, he was better able to analyze his emotions which, in his opinion, helped lower his anxiety level.

III. CONCLUSIONS AND IMPLICATIONS

Conclusions

One of the major focuses of the study was to identify the anxiety levels of student teachers throughout the student teaching year on the premise that excessive levels of anxiety in student teachers would interfere with the optimum learning atmosphere for the student teacher. To this end, State anxiety levels and Teacher anxiety levels were identified. No effort was made to identify the threshold level of anxiety above which anxiety begins to interfere with performance. The results revealed a steady decline in anxiety levels, as measured by both the State Anxiety Scale and the more specific Teacher Anxiety Scale, throughout the student teaching year. The highest level of State anxiety as related to student teaching was reported at the beginning of the student teaching year or at the initial measurement. The initial measurement of Teacher Anxiety, at the beginning of the practicum also revealed the highest levels of anxiety. The greatest decrease in anxiety levels occurred during the first practicum for both State and Teacher Anxieties. The initial student teaching experience is a time when anxiety about teaching is most significantly reduced. The anxiety levels are reduced during the pre-practicum but the levels of anxiety at the beginning of the first practicum are statistically significantly higher than at the conclusion of that first practicum. The rate of decrease of anxiety levels between the conclusion of the first practicum and the end of the student teaching year is relatively small. Any attempts to lower anxiety levels would be best attempted during the pre-practicum period

or during the initial stages of the first practicum.

Analysis of the data revealed that the anxiety levels of student teachers were not statistically significantly different for the variables of sex, age, level of achievement or training program. One would therefore conclude that any attempt to compensate for anxiety levels in student teachers by special programming for these variables would not be necessary. While the literature review had indicated a general trend that females score significantly higher on self report anxiety scales than do males, the results of this study supported Kata who indicated that while males do generally score lower than females, "sex of the respondent is not a good predictor of the anxiety level" (Kata, 1975:281). The mean scores for females were found to be consistently higher than for males but the differences were nonsignificant at the 0.05 level of significance.

Another focus of the study was the correlation between the scores on the A-State sub-test of the STAI and the scores on the TCHAS. The results of correlations performed on the results of these two tests revealed consistently significant and positive correlations between the two instruments. The Teacher Anxiety Scale can therefore be used, not only to identify specific concerns about the teaching task but also provide an indication of relative levels of State anxiety.

The analysis revealed that differences in levels of Trait Anxiety affect the level of Teacher Anxiety of student teachers. Those student teachers who were found to have high levels of anxiety proneness demonstrated statistically higher levels of teacher anxiety than did those subjects with low levels of trait anxiety. They also

demonstrated the ability to adapt and cope with stress which they perceived. Attempts to lower anxiety levels prior to the first practicum may be beneficial. In such cases, however, it would be useful to identify high A-Trait student teachers. Lowering teacher anxiety levels below minimum motivational levels might not be desirable. Anxiety might be lowered for low A-Trait student teachers if the same treatment was applied to both high and low A-Trait subjects.

Of particular interest to the researcher was the nature of student teacher concerns at times of high anxiety levels. The item analysis of the Teacher Anxiety Scale at the pre-practicum testing session revealed a strong feeling of anxiety towards the college supervisor and towards the principal observing in the classroom. A lack of confidence in how well prepared for teaching the student teacher perceived himself to be was another concern as was the specific ability to prepare lessons. These items also appeared through the factor analysis as specific concerns at this period of high anxiety.

The perceived source of the concerns of student teachers takes on a special significance if attempts are to be made to lower anxiety levels. The source questionnaire which was administered at the relatively high anxiety pre-practicum testing session revealed that the majority of concerns were as a result of something imagined. The second most frequently mentioned source was something seen. Student teachers at this point in time were expressing concerns about teaching tasks which had not yet been experienced and the anxiety levels were as a result of anticipation of problems. It would seem that these self-expressed sources, together with the specific concerns expressed should

be the focus of efforts to bring anxiety levels below what Spielberger refers to as the threshold level, above which anxiety-produced interfering response tendencies begin to interfere with performance. The high incidence of the source "seen" suggests that care must be taken to follow up observation periods in schools with discussion on what has been observed.

The nature of anxiety producing concerns changes as the student teacher matures as a novice teacher. Factor analysis of the Teacher Anxiety Scale supports the stages of development of student teachers suggested by Fuller, et al in Chapter 2 of this document.

A concern of student teachers that seems to have focused through both the Teacher Anxiety Scale and the expression of concerns not listed on the TCHAS was one of interpersonal relationships between the student teacher and other professionals with whom the student teacher works. Uncertainties about cooperating teachers, college supervisors and the principal of the school were frequently expressed. The interpersonal and social dimension of student teacher must therefore be of concern to the professionals working with the student teacher and not just the instructional dimension.

Implications of the Study

It has been demonstrated that levels of anxieties of student teachers decrease over the student teaching year and that relatively high levels of anxiety exist prior to the first practicum session. It has been further demonstrated that the nature of anxiety causing concerns varies during the student teaching year in concurrence with Fuller's stages of development of student teachers.

It is not surprising that student teachers would perceive the first practicum as the most threatening part of the preservice program. It is here that the student teacher faces school and classroom reality for the first time. The student teacher is being asked to adapt subject matter for different age and ability levels, to control student behavior, to be responsible for the motivation of other individuals and to work in harmony with and to satisfy a variety of other professionals.

When student teachers enter the classroom they become an integral part of the learning process of a group of pupils. If student teachers are preoccupied with serious concerns and doubts about themselves and their abilities, it would seem reasonable to assume that the pupils will not benefit to the maximum from what the student teacher has to offer nor will the student teacher benefit to the maximum of what other professionals have to offer to their student teachers. The alleviation of concerns of student teachers has to be a vital part of learning to teach because until these concerns have been satisfied, there will be competing demands on the energies of the student teacher. The levels of these anxieties decrease significantly as the student teacher gains experience in the classroom. This decrease is probably due to the development of coping mechanisms in pressure situations, the familiarization with the teaching tasks and the building of self-confidence as a teacher.

There may be times when high anxiety levels in student teachers seem to interfere with effective teaching. In such cases, the supervising professionals could assist the student teacher by facilitating the identification of the student teacher's anxiety causing concerns.

The study revealed that over 50 per cent of student teachers' concerns were a result of something that has been either seen or imagined. It would appear that, this being the case, an examination of the concerns would be useful. The supervising professionals should ensure that provisions are made for regular dialogue with the student teacher on the activities of both the student teacher and the cooperating teacher.

Suggestions for Further Study

This study made no judgement as to the threshold level of anxiety in student teachers which would provide for the optional learning conditions for the student teacher. The literature suggests that anxiety has the effect of reducing mental efficiency and classroom performance. However, the implication also exists that without some tension teaching may be flat. Research into the most efficient levels of anxiety in student teachers would be desirable.

A second area which needs research in some experimentation on methods of reducing the specific anxieties of student teachers. This study has identified concerns and their sources. The effect on anxiety levels of such treatments as seminars on student teacher concerns and interpersonal relations training would prove beneficial.

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APPENDIX A

Personal Information Sheet

Survey Number _____

NAME: _____

PROGRAM: Primary _____ Intermediate _____ Jr. High _____

Sr. High _____ Music _____

SEX: Male _____ Female _____

AGE: _____

Points Presented to Student Teachers
as Introductory Comments
Testing Session 1

Introduction

- A. Research into ways of providing more effective supervision of student teachers.
- applicable in schools by teachers and principals
 - applicable here by Faculty Supervisors
- B. Type of information needed.
- survey of attitudes and opinions at critical times during the practice teaching year
- C. Effect of the survey.
- none on you as individuals
 - hopefully a great deal, on student teachers of the future
 - hopefully it will help YOU as a classroom teacher when you will be asked to supervise a student teacher in the future
 - GUARANTEE - it will not affect you in any way during this college year
 - professors will not have access to any information until after the study is completed--and then only in generalities as group data
 - you will not be identified as individuals--in fact I don't need your name EXCEPT that some of you might forget your assigned student number
 - I will be the only one with access to your name and it will not go on to the computer card
- D. Testing.
- four times during the year--maximum of one half hour each

Participation

- NOT COMPULSORY but I hope everyone will agree to participate
- if you wish to OPT OUT--do so now; do not take a data sheet

- if you wish a copy of the results I will send you a summary

Fact Sheet

- remember your number for today
- if you wish a copy of the results put a summer address on bottom of sheet

STAI

- how you feel "AT THIS MOMENT"--"ABOUT STUDENT TEACHING"
- how you feel "generally"--not relating specifically to any participative aspect

Instructions for Test Administration
Testing Session 2

The battery of three tests should be administered no later than the second day of student teaching. Otherwise they can not be considered as a "pretest" to student teaching.

If there are any questions regarding the tests please call Murray Zuk in Souris collect at 410 during office hours and at 122 at home.

The student teachers all agreed to participate in the study last September. However, if any of them have any violent objections to continuing in the study, they are to be excused from answering these tests.

Step I

a. Assign the following survey numbers to the student teachers:

-
-
-

Step II

- a. Hand out "Self-evaluative questionnaire, STAI Form X-1."
- b. Instruct the student teachers to be sure to answer form X-1 as form X-2 which is located on the reverse side of the form is NOT to be answered at this time.
- c. Instruct student teachers to put survey number and date at the top of Form X-1 (Name is not required).
- d. Read the following directions:

A number of statements which people have used to describe themselves are given below. Read each statement and then blacken in the appropriate circle to the right of the statement to indicate how you feel right now, that is, AT THIS MOMENT--ABOUT STUDENT TEACHING. There are no right or wrong answers. Do not spend too much time on any one statement but give the answer which seems to describe your present feelings best. Note: the three underlined words above do not appear on the student's copy so please emphasize them.

- e. They may now begin to answer form X-1 (note: there is no time limit but it will take about 5 minutes).

- f. When student teachers have completed form X-1, collect the answer sheets.

Step III

- a. Hand out Form X-3.
- b. Instruct student teachers to fill in survey numbers and date.
- c. Read the following to the student teachers:

This questionnaire is designed for both teachers and prospective or student teachers. As student teachers you will use the wording in the brackets where they exist.

Your answers will be kept strictly confidential. Your professors and teaching supervisors will not have access to this information. Please read each question carefully. Answer every question, even if it seems vague to you or difficult to answer. Mark an "X" in only one box for each question. Be sure the "X" falls well within the box and does not extend into another box. Use the following scale for all questions: Never, Infrequently, Occasionally, Frequently and Always.

Answer the questions as to how you feel RIGHT NOW--ABOUT STUDENT TEACHING.

You may begin.

- d. When completed, collect all papers (this should take about 5-10 minutes).

Step IV

- a. Hand out Form X-4.
- b. Ask student teachers to fill in survey number and date.
- c. Read the following:

On the last questionnaire you indicated how you felt about some aspects of student teaching. On this questionnaire you will be asked to indicate to the best of your ability WHY you feel that way. Each question on this form X-4 corresponds to the same numbered question on Form X-3 which you just turned in.

The following questionnaire will give you the opportunity to examine why you feel the way you do. Is it because of something you have seen, something you have heard (which may include something you have heard from your professor in class, from your classmates in 'gab' sessions, something you have heard from friends who

are teachers, etc.), something you imagined, do you not know why you feel the way you do, or is there some "other" reason? If you choose item number 5, "other," please indicate the source on the line below the item.

If you feel that there is more than one contributing factor, please indicate ONLY THE MOST SIGNIFICANT FACTOR.

Place an "X" in the appropriate box that BEST describes why you feel the way you do.

On the last page of this questionnaire you will be given an opportunity to indicate any concerns you may have about student teaching which have been missed by these surveys.

- d. When students have completed questionnaires, collect papers and dismiss students.

THANK YOU SINCERELY FOR YOUR ASSISTANCE

INSTRUCTIONS FOR RETURNING COMPLETED ANSWER SHEETS:

- a. Place all completed answer sheets in envelope and SEAL.
 b. Address envelope to:

Murray Zuk
 c/o Cliff Carbno
 Faculty of Education
 Brandon University
 Brandon, Manitoba

- c. Give the envelope to the Supervising Faculty from Brandon University and ask that he or she pass it on to Professor Carbno.

Instructions for Test Administration
Testing Session 3

The battery of two tests should be administered during the last two days of student teaching. The students are all familiar with the tests which should take no longer than 15 minutes.

If there are any questions regarding the tests, please call Murray Zuk in Souris, collect, at 410 during office hours and at 122 at home.

Step I

- a. Assign the following survey numbers to the student teachers:

-
-
-

Step II

- a. Hand out "Self-evaluation questionnaire, STAI Form X-1."
b. Instruct the student teacher to be sure to answer form X-1 as form X-2 which is located on the reverse side of the form is NOT to be answered at this time.
c. Instruct student teachers to put survey number and date at the top of Form X-1 (Name is not required).
d. Reading the following directions:

A number of statements which people have used to describe themselves are given below. Read each statement and then blacken in the appropriate circle to the right of the statement to indicate how you feel right now, that is, AT THIS MOMENT--ABOUT STUDENT TEACHING. There are no right or wrong answers. Do not spend too much time on any one statement but give the answer which seems to describe your present feelings best. Note: the three underlined words above do not appear on the student's copy, so please emphasize them.

- e. They may now begin to answer form X-1 (note: there is no time limit but it will take about 5 minutes).
f. When student teachers have completed form X-1, collect the answer sheets.

Step III

- a. Hand out Form X-3.
- b. Instruct student teachers to fill in survey numbers and date.
- c. Read the following to the student teachers:

Some questions are worded with brackets such that you can read the question with or without the brackets. At this stage of your training you may now ignore the wording in brackets.

Your answers will be kept strictly confidential. Your professors and teaching supervisors will not have access to this information. Please read each question carefully. Answer every question, even if it seems vague to you or difficult to answer. Mark an "X" in one box for each question. Be sure the "X" falls well within the box and does not extend into another box. Use the following scale for all questions: Never, Infrequently, Occasionally, Frequently and Always.

Answer the questions as to how you feel RIGHT NOW--ABOUT STUDENT TEACHING.

You may begin.

- d. When completed, collect all papers (this should take about 5-10 minutes).

INSTRUCTIONS FOR RETURNING COMPLETED ANSWER SHEETS:

Place all completed answer sheets in the self-addressed envelope and mail as soon as possible.

Thank you sincerely for your assistance.

The student teachers will re-write this questionnaire at the conclusion of their last student teaching session. I hope I may call on your assistance at that time. Results of the research will be sent to all who cooperated in the data collection.

April 21, 1976

Dear Principal:

You may or may not be familiar with the enclosed set of tests. They are part of testing program used to collect data for a thesis leading to a Master of Education degree at the University of Manitoba. The topic of my thesis is Trends and Sources of Anxiety in Student Teaching. This is the fourth and final set of tests during their student teaching year. Due to a number of students dropping out of the program, my sample size has been diminished significantly. It is therefore critical that I obtain test results from those remaining in the program. I am asking your cooperation in having someone on staff administer these tests to the student teachers in your school. It should only take 15-20 minutes. A summary of the results will be forwarded to all who assist in data collection.

Thank you sincerely for your assistance.

Yours truly,

Murray L. Zuk

mlz/vms

P.S. It is important that the word "Anxiety" not be used in the administration of these tests.

Instructions for Test Administration
Testing Session 4

The battery of three tests should be administered during the last week of student teaching. The students are all familiar with the tests which should take no longer than 15 minutes.

If there are any questions regarding the tests, please call Murray Zuk in Souris, collect, at 410 during office hours and at 122 at home.

Step I

- a. Assign the following survey numbers to the student teachers:

-
-
-

Step II

- a. Hand out "Self-evaluation questionnaire, STAI Form X-1."
b. Instruct the student teachers to be sure to answer form X-1 prior to X-2 which is located on the reverse side of the form.
c. Instruct student teachers to put survey number and date at the top of Form X-1 (Name is not required).
d. Read the following directions:

A number of statements which people have used to describe themselves are given below. Read each statement and then blacken in the appropriate circle to the right of the statement to indicate how you feel right now, that is, AT THIS MOMENT--ABOUT STUDENT TEACHING. There are no right or wrong answers. Do not spend too much time on any one statement but give the answer which seems to describe your present feelings best. Do not omit any items. Note: the three underlined words above do not appear on the student's copy, so please emphasize them.

- e. They may not begin to answer form X-1 (note: there is no time limit but it will take about 5 minutes).

Step III

- a. Have students turn X-1 over to answer X-2 which is on the reverse side of X-1.

b. Instruct student teachers to place survey number and date at top of page X-2.

c. Read the following directions:

A number of statements which people have used to describe themselves are given below. Read each statement and then blacken in the appropriate circle to the right of the statement to indicate how you GENERALLY feel (not limited to your feelings about student teaching). There are no right or wrong answers. Do not spend too much time on any one statement, but give the answer which seems to describe how you generally feel. Do not omit any item.

d. Collect all papers.

Step IV

a. Hand out Form X-3.

b. Instruct student teachers to fill in survey numbers and date.

c. Read the following to the student teachers:

Some questions are worded with brackets such that you can read the question with or without brackets. At this stage of your training you may now ignore the wording in brackets.

Your answers will be kept strictly confidential. Your professors and teaching supervisors will not have access to this information. Please read each question carefully. Answer every question, even if it seems vague to you or difficult to answer. Mark an "X" in only one box for each question. Be sure the "X" falls well within the box and does not extend into another box. Use the following scale for all questions: Never, Infrequently, Occasionally, Frequently and Always.

Answer the questions as to how you feel RIGHT NOW--ABOUT STUDENT TEACHING.

You may begin.

d. When completed, collect all papers (this should take about 5-10 minutes).

INSTRUCTIONS FOR RETURNING COMPLETED ANSWER SHEETS:

Place all completed answer sheets in the self-addressed envelope and mail as soon as possible.

Thank you sincerely for your assistance.

APPENDIX B

SELF-EVALUATION QUESTIONNAIRE

Developed by C. D. Spielberger, R. L. Gorsuch and R. Lushene

STAI FORM X-1

NAME _____ DATE _____

DIRECTIONS: A number of statements which people have used to describe themselves are given below. Read each statement and then blacken in the appropriate circle to the right of the statement to indicate how you *feel* right now, that is, *at this moment*. There are no right or wrong answers. Do not spend too much time on any one statement but give the answer which seems to describe your present feelings best.

	NOT AT ALL	SOMEWHAT	MODERATELY SO	VERY MUCH SO
1. I feel calm	①	②	③	④
2. I feel secure	①	②	③	④
3. I am tense	①	②	③	④
4. I am regretful	①	②	③	④
5. I feel at ease	①	②	③	④
6. I feel upset	①	②	③	④
7. I am presently worrying over possible misfortunes	①	②	③	④
8. I feel rested	①	②	③	④
9. I feel anxious	①	②	③	④
10. I feel comfortable	①	②	③	④
11. I feel self-confident	①	②	③	④
12. I feel nervous	①	②	③	④
13. I am jittery	①	②	③	④
14. I feel "high strung"	①	②	③	④
15. I am relaxed	①	②	③	④
16. I feel content	①	②	③	④
17. I am worried	①	②	③	④
18. I feel over-excited and "rattled"	①	②	③	④
19. I feel joyful	①	②	③	④
20. I feel pleasant	①	②	③	④



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577 College Avenue, Palo Alto, California 94306

Form X - 3

- 2 -

Student No. _____

	Never	Infrequently	Occasionally	Frequently	Always
	(1)	(2)	(3)	(4)	(5)
10. I feel secure with regard to my ability to keep a class under control.	<input type="checkbox"/>				
11. I'm less happy teaching than I thought I'd be.	<input type="checkbox"/>				
12. I feel nervous when I am being observed by my college supervisor.	<input type="checkbox"/>				
13. I feel confident about my ability to improvise in the classroom.	<input type="checkbox"/>				
14. I feel other teachers (will think) think I'm very competent.	<input type="checkbox"/>				
15. I (would feel) feel very panicky when a student asks me a question I (couldn't) can't answer.	<input type="checkbox"/>				
16. I feel anxious because I don't know yet whether I really want to be a teacher.	<input type="checkbox"/>				
17. I feel better prepared for teaching than other preservice teachers in my teacher preparation program.	<input type="checkbox"/>				
18. Lack of rapport with my students (will be) is one of my biggest worries.	<input type="checkbox"/>				
19. I would feel anxious if the principal informed me he was coming to my class to observe.	<input type="checkbox"/>				
20. I (would find) find it easy to speak up in the staff room.	<input type="checkbox"/>				
21. I worry about being able to keep the students interested in what I (will teach) teach them.	<input type="checkbox"/>				
22. I (would find) find it easy to admit to the class that I don't know the answer to a question a student asks.	<input type="checkbox"/>				
23. Deciding how to present information in the classroom (would make) makes me feel uncertain.	<input type="checkbox"/>				
24. I feel that I will have good recall of the things I know when I am in front of the class.	<input type="checkbox"/>				
25. I feel I (will be) am as competent in the classroom as other preservice teachers in my teacher preparation program.	<input type="checkbox"/>				

FORM X - 4

Student No. _____

Date _____

The following questionnaire will give you the opportunity to examine why you feel the way you do about student teaching. Place an "X" in the appropriate box that best describes why you feel the way you do. Is it because of something you have seen, something you have heard, something you imagined, do you not know why you feel the way you do, or is there some "other" reason? If you choose item number 5 (other), please indicate the source on the line below the item.

- | | Seen
(1) | Heard
(2) | Imagined
(3) | Unknown
(4) | Other
(5) |
|---|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|
| 1. My feelings about holding parent-teacher conferences is the result of something I have ...

(if "other", describe here:) _____ | <input type="checkbox"/> |
| 2. My feelings about concentrating on questions after having difficulty answering a student's question is the result of something I have ...

(if "other"): _____ | <input type="checkbox"/> |
| 3. My feelings about speaking before a group is the result of something I have ...

(if "other"): _____ | <input type="checkbox"/> |
| 4. My feeling of calmness about lesson preparation is the result of something I have ...

(if "other"): _____ | <input type="checkbox"/> |
| 5. My feelings about my ability to be a good teacher is the result of something I have ...

(if "other"): _____ | <input type="checkbox"/> |
| 6. My confidence in finding teaching a satisfying profession is a result of something I have ...

(if "other"): _____ | <input type="checkbox"/> |

FORM X - 4

- 2 -

Student No. _____

Seen	Heard	Imagined	Unknown	Other
(1)	(2)	(3)	(4)	(5)

7. My feelings about a parent observing in my classroom is a result of something I have ...
 (if "other"): _____
8. My feelings of adequacy in relation to other members of my teacher education class is a result of something I have ...
 (if "other"): _____
9. My confidence that students will follow my instructions is the result of something I have ...
 (if "other"): _____
10. My feelings about my ability to control the class is a result of something I have ...
 (if "other"): _____
11. My feelings of happiness in teaching are a result of something I have ...
 (if "other"): _____
12. My feelings about being observed by my college supervisor are a result of something I have ...
 (if "other"): _____
13. My feelings about my ability to improvise in the classroom are the result of something I have ...
 (if "other"): _____
14. My feelings about my competency as viewed by other teachers is a result of something I have ...
 (if "other"): _____
15. My feelings about not being able to answer a student's question is a result of something I have ...
 (if "other"): _____

Seen	Heard	Imagined	Unknown	Other
(1)	(2)	(3)	(4)	(5)

- 16. My feelings about my true desire to become a teacher are a result of something I have ...
 (if "other"): _____
- 17. My feelings of confidence about my preparation for teaching in relation to other members of my teacher training class are a result of something I have ...
 (if "other"): _____
- 18. My feelings about my ability to develop a rapport with students are a result of something I have ...
 (if "other"): _____
- 19. My feelings about the principal coming to observe my class are a result of something I have ...
 (if "other"): _____
- 20. My feelings about participating in staff room discussions are a result of something I have ...
 (if "other"): _____
- 21. My feelings about my ability to keep students interested in my lessons are a result of something I have ...
 (if "other"): _____
- 22. My feelings about admitting that I don't know the answer to a student's question are a result of something I have ...
 (if "other"): _____
- 23. My feelings about making decisions regarding methods of instruction are a result of something I have ...
 (if "other"): _____

APPENDIX C

Table 26

Factor Loadings on 25 Teacher Anxiety Variables on
Varimax Rotated Factors for Pre Student Teaching

Item	Factor I	Factor II	Factor III	Factor IV	Factor V	Factor VI	Factor VII	Factor VIII	Communality
1	0.046	-0.093	0.152	0.182	0.067	-0.047	0.681	0.173	0.567
2	-0.077	0.191	0.542	0.227	-0.053	0.159	0.142	-0.230	0.489
3	0.345	0.305	0.108	0.559	0.063	0.082	0.015	-0.218	0.609
4	0.420	0.107	0.065	0.043	0.209	0.004	0.059	0.460	0.452
5	0.432	0.279	-0.066	0.209	0.200	0.272	0.262	0.106	0.506
6	0.051	0.668	0.059	0.137	0.198	0.017	0.069	0.163	0.541
7	-0.063	0.205	0.086	0.400	-0.062	0.225	0.210	0.438	0.504
8	0.186	0.087	0.032	0.598	0.217	0.069	0.055	0.177	0.487
9	0.009	0.029	0.068	0.144	0.649	0.002	0.002	0.072	0.453
10	0.128	0.279	0.175	0.225	0.676	0.169	0.284	-0.046	0.744
11	0.186	0.648	0.071	0.008	-0.037	0.125	-0.055	-0.050	0.482
12	0.266	0.082	0.107	0.192	0.073	0.921	-0.067	0.044	0.986
13	0.307	0.028	0.154	0.367	0.227	0.220	0.411	0.002	0.522
14	0.448	0.105	0.295	0.129	0.417	0.197	0.270	0.023	0.602
15	0.322	0.107	0.644	0.103	0.189	0.064	-0.063	0.151	0.608
16	0.196	0.732	0.101	0.235	0.109	-0.026	0.041	0.049	0.656
17	0.467	0.073	0.033	0.114	-0.005	0.073	-0.001	0.005	0.242
18	0.291	0.161	0.429	0.265	0.099	0.032	0.243	0.211	0.480
19	0.275	0.147	0.295	0.703	0.114	0.190	-0.030	0.040	0.731
20	0.047	0.212	0.296	-0.111	0.088	-0.063	0.406	-0.161	0.350
21	0.465	1.164	0.075	0.237	0.191	0.330	0.191	0.173	0.517
22	-0.043	-0.033	0.683	0.087	0.098	-0.014	0.213	0.060	0.536
23	0.794	0.189	0.057	0.252	0.014	0.051	0.036	0.021	0.737
24	0.129	0.043	0.180	0.564	0.149	0.155	0.307	0.028	0.510

Table 26 (continued)

Item	Factor I	Factor II	Factor III	Factor IV	Factor V	Factor VI	Factor VII	Factor VIII	Communality
25	0.337	0.163	0.053	0.545	0.404	-0.200	0.098	0.111	0.665
Eigenvalues	7.17	1.53	1.21	1.09	0.89	0.80	0.70	0.58	

Table 27

Factor Loadings on 25 Teacher Anxiety Variables on
Varimax Rotated Factors for Post Student Teaching

Item	Factor I	Factor II	Factor III	Factor IV	Factor V	Factor VI	Communality
1	0.099	0.002	0.563	0.101	0.184	0.122	0.386
2	0.121	0.215	0.093	0.793	0.216	0.007	0.745
3	0.226	-0.091	0.119	0.176	0.453	0.146	0.331
4	-0.009	0.244	0.300	0.133	0.563	-0.072	0.490
5	0.289	0.366	0.262	0.063	0.466	0.325	0.613
6	0.099	0.667	0.122	0.229	0.321	0.074	0.630
7	0.211	0.077	0.593	0.061	0.171	0.089	0.442
8	0.136	0.400	0.211	0.137	0.380	0.239	0.443
9	0.404	0.066	0.340	0.178	0.290	0.030	0.400
10	0.319	0.142	0.464	0.058	0.436	0.160	0.556
11	0.025	0.721	0.253	-0.027	0.015	0.412	0.756
12	0.410	0.136	0.246	0.126	0.396	0.214	0.466
13	0.179	0.229	0.646	0.280	0.101	0.106	0.601
14	0.541	0.197	0.259	0.105	0.085	0.282	0.497
15	0.175	0.115	0.358	0.605	0.077	0.155	0.568
16	0.218	0.893	-0.083	0.184	0.001	-0.038	0.888
17	0.637	-0.017	0.096	-0.047	0.043	0.243	0.478
18	0.145	0.139	0.157	0.156	0.120	0.666	0.547
19	0.636	0.176	0.083	0.083	0.224	0.057	0.502
20	0.319	-0.045	0.361	0.169	0.091	0.097	0.280
21	0.645	0.246	0.151	0.255	0.247	0.077	0.633
22	0.399	0.016	0.186	0.092	-0.018	-0.098	0.212
23	0.445	0.288	0.068	0.226	0.370	0.276	0.550
24	0.259	0.194	0.361	0.460	0.186	0.377	0.624
25	0.290	0.187	0.353	-0.143	0.298	0.357	0.481
Eigenvalue	8.614	1.618	1.116	0.984	0.675	0.563	

Table 28

Factor Loadings on 25 Teacher Anxiety Variables on
Varimax Rotated Factors for the Year End

Item	Factor I	Factor II	Factor III	Factor IV	Factor V	Factor VI	Communality
1	0.580	-0.005	0.283	0.153	0.171	0.096	0.478
2	-0.189	0.182	0.102	0.054	0.254	0.557	0.456
3	0.075	0.185	0.041	0.111	-0.127	0.444	0.267
4	0.258	0.125	0.143	0.744	0.088	0.236	0.720
5	0.252	0.387	0.603	0.127	0.077	0.146	0.620
6	0.138	0.457	0.137	0.462	0.007	0.083	0.466
7	0.107	0.162	0.512	0.119	0.179	-0.062	0.349
8	0.497	0.330	0.153	0.161	0.135	0.047	0.426
9	0.205	-0.036	0.456	0.244	0.374	0.059	0.454
10	0.081	0.083	0.519	0.356	0.213	0.216	0.502
11	0.263	0.674	0.266	0.168	0.043	0.120	0.638
12	0.262	0.276	0.335	-0.008	0.198	0.382	0.478
13	0.188	0.278	0.285	0.285	0.457	0.153	0.508
14	0.476	0.385	0.380	0.142	0.169	0.274	0.643
15	0.255	-0.056	0.144	0.146	0.254	0.581	0.512
16	-0.018	0.844	0.151	0.078	0.148	0.124	0.779
17	0.598	0.072	0.299	-0.057	0.168	0.025	0.484
18	0.435	0.021	0.487	0.143	-0.126	0.157	0.488
19	0.307	0.187	0.533	0.148	0.044	0.113	0.450
20	0.286	0.149	0.507	0.057	-0.020	0.296	0.452
21	0.196	0.150	0.620	0.027	0.249	0.038	0.509
22	0.360	-0.215	-0.003	0.094	0.426	0.464	0.581
23	-0.111	0.272	0.378	0.550	0.362	0.048	0.665
24	0.219	0.197	0.259	0.070	0.722	0.188	0.715
25	0.554	0.425	0.266	0.289	0.038	0.085	0.650
Eigenvalues	8.24	1.49	1.24	0.90	0.79	0.63	

Table 29

Sources of Anxiety Listed as "Other"
in Source Questionnaire

Frequency	Source
261	Experienced
35	Self-confidence
25	Felt
14	Personal thoughts
11	Insecurity in dealing with adults
10	Relating to people
6	Learned in class
5	Acceptance of personal limitations
3	Known
3	Previous negative experiences speaking in front of others
3	Personal interest in kids
2	Tendency to get off track
2	Life desire to be a teacher
2	Worked hard
1	Lack of training in making decisions
1	Read
1	Personal philosophy
1	Observed in schools
1	Learned to relax and feel confident
1	Fear of speaking in front of peers
1	Don't like the staff room
1	Built up tensions to a critical point
1	Hoped for
3	No response given
393	Total

Table 30

Expressed Student Teacher Concerns Not
Included in the Teacher Anxiety Scale

-
-
- pupil evaluation (5)*
 - methods and criteria used by Supervising Faculty in grading student teachers (4)
 - relevancy of professional courses to practical application (3)
 - assignments for university courses that are required to be completed during the practicum (3)
 - relationships established with the cooperating teacher (4)
 - having to satisfy many masters (i.e., cooperating teacher, supervising faculty, principal, students) (2)
 - rapport with other teachers (2)
 - the different philosophies of university supervisors
 - inadequate preparation for time management
 - the restrictions put on the life-style of the student teacher by the profession
 - conflict of expectations between self and cooperating teacher
 - restraints of time
 - frightened by young adolescent boys who are so "experienced"
 - finding tutorial time for students who are behind in specific lessons
 - the amount of overlap in many professional courses
 - the evaluative emphasis to be placed on student teaching
 - having to take over a class at the beginning of the practicum
 - heavy work load
 - having to fit into another teacher's framework
 - lack of confidence in minor teaching subjects
 - the competence of the evaluators of student teaching
 - obtaining student enthusiasm in the classroom
 - my ability to agree with the classroom teacher on teaching methods
 - the willingness of the classroom teacher to allow me to try things without feeling superior or insulted
 - What do I do when my standards of discipline are more strict than those of the cooperating teacher?
 - Faculty supervisors don't see enough work to make a fair evaluation
 - Will constructive criticisms come early enough to improve and will there be continuous feedback on progress made?
 - handling the class if the teacher left for the day
-

*Frequencies greater than unity indicated in brackets.