DOCUMENT RESUME

ED 159 193 TM 007 431

AUTHOR Damico, Sandra B.; And Others
TITLE The Measurement of Pupils' Attitudes Toward School: A Handbook for Teachers. Resource Monograph No. 15.
INSTITUTION Florida Educational Research and Development Council, Gainesville.; Florida Univ., Gainesville. P. K. Yonge Lab. School.
PUB DATE Nov 75
NOTE 49p.

EDRS PRICE MF-$0.83 HC-$2.06 Plus Postage.
DESCRIPTORS *Attitude Tests; Elementary Secondary Education; Item Analysis; Norms; Rating Scales; Research Design; *School Attitudes; Scoring; *Student Attitudes; *Test Construction; Testing; *Test Interpretation; Test Reliability
IDENTIFIERS *Battle Student Attitude Scale; *Test Manuals

ABSTRACT

A student questionnaire is presented that is designed to measure attitudes toward school, with subscales for attitudes towards self, other students, teachers, the principal, and the school in general: The Battle Student Attitude Scale. Attitudes are discussed briefly, telling what they are, how they develop, and what effect they may have on academic achievement. Background information is presented on test development and norming. Test administration and scoring are explained, and suggestions are given on how a teacher or school might interpret the information provided by student responses. Copies of both attitude scales are presented, one for elementary school students (containing 58 items) and one for secondary school students (containing 60 items). These scales are not covered by copyright and may be reproduced and used locally. Norms are presented for the administration of both tests in Florida schools. There is a brief discussion of experimental and quasi-experimental research designs, and the use of these attitude scales for a schools' evaluation program. (Author/CTM)

THE MEASUREMENT OF PUPILS' ATTITUDES TOWARD SCHOOL

A HANDBOOK FOR TEACHERS

P. K. Yonge Laboratory School
College of Education
University of Florida

and

Florida Educational Research and Development Council

RESOURCE MONOGRAPH NO. 15

2

THE MEASUREMENT OF PUPILS' ATTITUDES TOWARD SCHOOL

A HANDBOOK FOR TEACHERS

Sandra B. Damico, Vynce A. Hines

and

James C. Northrop

November, 1975

P. K. Yonge Laboratory School
College of Education
University of Florida

and

Florida Educational Research and Development Council

This public document was promulgated to disseminate information to public school personnel at an annual cost of $1,599.70 or a per copy cost of .533 cents.

ACKNOWLEDGMENTS

A special thanks is due the many teachers and principals in the following schools who took time from their busy schedules to collect the data upon which the elementary portion of this monograph is based. Without their cooperation this project could never have been completed.

Sidney Lanier Elementary - Alachua County
Southside Elementary - Bradford County
Melrose Elementary - Columbia County
Bunnell Elementary - Flagler County
South Hamilton Elementary - Hamilton County
Avon Park Elementary - Highlands County
Citrus Elementary - Indian River County
Michigan Elementary - Lee County
Pinetta Elementary - Madison County
Southside Elementary - Nassau County
Riverside Elementary - Polk County
Silver Lake Community School - Putnam County
Fort Pierce Elementary - St. Lucie County
Coleman Elementary - Sumter County
Branford Elementary - Suwannee County

Finally, we would like to express our appreciation to the Florida Educational Research and Development Council for jointly sponsoring this project with the P. K. Yonge Laboratory School (University of Florida).

Sandra Damico
Vynce Hines
James Northrop

PREFACE

No one will deny that attitudes are major influences in our lives. They contribute, in the extremes, either positively or negatively to the quality of our relationships with others at work or play.

Any teacher can verify from experience that there is a high correlation between a student's attitude toward school and his school achievement. A number of scholarly studies document this fact while others identify sources of attitudes or describe various student behaviors manifested as a result of attitudes.

Knowledge of the relationship between attitudes and behavior and achievement is useful, however, only if a teacher has a readily available instrument that is easily administered and scored and some framework within which to interpret results. It is the purpose of this monograph to provide such information along with resources for use by teachers in studying students' attitudes.

It is hoped that this additional insight into student behavior will inspire teachers to test ways of assisting students in developing attitudes which will make school a happier, more rewarding place to be.

The information included in this publication may also be of value at the district level. Many school systems have made provisions to include attitudinal data in their Comprehensive Educational Plan. The attitude scales (elementary and secondary levels) included in this monograph provide a means by which these data may be easily collected, analyzed, and reported.

J. B. Hodges, Director
P. K. Yonge Laboratory School
College of Education
University of Florida
Gainesville, Florida 32611

CONTENTS

INTRODUCTION

This Resource Monograph was written to provide Florida educators with a school attitude scale which could be easily administered and scored. Two forms are included: one for elementary level pupils and one for those in secondary schools. These attitude scales have not been copyrighted and so may be reproduced at the local level.

In order for schools effectively to gauge where their students stand relative to other pupils in the State, tables of norms for the secondary and elementary forms of the Student Attitude Scale have been included in the Appendix. The norm tables for the secondary form of the instrument were developed from the responses of 4,918 pupils in 40 Florida public schools collected as part of the University of Florida's educational leadership study. The P. K. Yonge Laboratory School and the Florida Educational Research and Development Council jointly sponsored a study in 1974 to develop a table of norms for the elementary form. Forty-five elementary classrooms in fifteen schools (1,073 pupils) participated in this project.

Because of the cooperative nature of the effort to develop norms for the elementary form of the attitude scale, letters were mailed to all Florida Educational Research and Development Council county representatives informing them of the purposes of the study and seeking an elementary school within their county willing to participate. The names and addresses of these schools were forwarded to the P. K. Yonge Laboratory School.

Schools which indicated a willingness to participate were sorted into three categories based on size of school as indicated by number of teachers employed. Using a map of Florida, five schools were selected from each of the three size categories to reflect a demographic distribution across the State. The fifteen schools selected to participate in this study are listed on the acknowledgments page of this monograph.

Each of the fifteen selected schools was contacted directly and given directions for participation in the study. These instructions included having a third, fourth, and fifth grade teacher within the school administer the Battle Student Attitude Scale to their pupils and provide data on sex and race of students. The completed attitude scales were then returned to P. K. Yonge for scoring and analysis. These data produced the percentile table which is included as the Table of Norms for the elementary form of the Battle Student Attitude Scale.

This monograph has been divided into a number of sections which cover those questions most likely to be raised locally about the collection and use of data on pupils' attitudes toward school. A description of the contents of each of the sections follows:

1. a brief discussion of attitudes, what they are, how they develop, and why they are important in meeting the academic objectives of schools;

2. background information on the development of the secondary and elementary levels of the attitude scale including the processes used in establishing tables of statewide norms;

3. procedures to be used in administering and scoring the attitude scale;

4. hints on how a teacher or school might interpret information collected on pupils' attitudes toward school;

5. suggestions for inclusion of attitude measurement in a school's evaluation program or Annual Report;

6. copies of both forms of the attitude scales which may be reproduced and used locally; and,

7. tables of norms and stanines for both the elementary and secondary levels of the attitude scale.

As previously mentioned, financial support for collection and analysis of data necessary to establish the table of norms for the elementary level of the attitude scale was cooperatively provided by the Florida Educational Research and Development Council and the P. K. Yonge Laboratory School.

I

WHAT ARE ATTITUDES?

Yet to be formulated is a definition of "attitudes" acceptable to all social psychologists. Despite this state of affairs certain characteristics of attitudes have been widely agreed upon including the fact that they are a predisposition to respond to social objects and that they direct overt behavior. The definition of attitudes used in this monograph has been proposed by Shaw and Wright (1967) and takes these two basic characteristics into account:

> A relatively enduring system of evaluative, affective reactions based upon and reflecting the evaluative concepts or beliefs which have been learned about the characteristics of a social object or class of social objects. (p. 3)

Thus, an attitude is a state or disposition to act toward an object. It has both direction and intensity. In an educational setting a pupil could have attitudes toward a variety of objects including his school as a whole, other pupils, his teacher, the principal, and the basketball team. The direction of the attitude might be favorable or unfavorable, positive or negative; its intensity either strong or slight. An unfavorable attitude toward the school might be so intense as to manifest itself in severe vandalism. Or, it could be so favorable that the pupil would spend Saturdays cleaning, painting, planting, and beautifying the school building and its grounds.

Generally, it is believed that favorable attitudes will lead to more positive consequences in pupil growth, citizenship, achievement, cooperation, and social climate. Negative attitudes are often accompanied by disruptive behavior, truancy, dropouts, vandalism, and other undesirable consequences. Therefore, it is important for principals and teachers to have some measure of their pupils' attitudes. Such a measure may indicate that corrective action needs to be taken within the classroom, or it may provide the psychological security of knowing that things are going well. Where school faculties are consciously trying to build morale, an attitude measure will be needed to assess whether or not their program is making a difference.

Four different ways in which attitudes develop have been defined (Stagner, 1941): (1) integration, (2) trauma, (3) differentiation, and (4) adoption.

1. Integration. Attitudes may develop as a response to a series of events which happen to an individual over time. An example from a recent study (Cadmus, 1974) portrays the changes in behavior and attitude of a first grade male between the opening of school and the end of the first six weeks. At the beginning of school this child had acted very much like a leader. He had a high level of self-confidence and was very verbal. It soon became evident, however, that his lower-class background had not adequately prepared him for school. He lacked institutional social skills and had severe academic deficiencies. These limitations placed him in a noncompetitive position vis-a-vis the other students in the class. As this slowly became evident to him, his enthusiasm decreased and he displayed progressively higher levels of hostile behavior toward his peers.

2. Trauma. An attitude may develop in response to a single shocking or painful experience. Most of us can remember a student who was publicly humiliated in school, possibly in response to some wrongdoing on his part. But the punishment was devasting, not corrective, and consequently the student developed deep-seated, negative attitudes which may have become generalized over time to include all teachers or anything else associated with school.

3. Differentiation. Attitudes of unrest and discontent within the society may manifest themselves in negative responses to school (or other institutions). During the middle and late 1960's significant disagreement with government policy toward Vietnam became directed toward more immediate targets. For instance, many college campuses witnessed efforts to burn ROTC buildings, sit-ins in university presidents' offices, or efforts to force discontinuation of chemical warfare research. Many high schools also experienced their own versions of student discontent during this unsettled period in the life of the country.

4. Adoption. This method of acquiring attitudes entails the acceptance of those attitudes, or responses to objects, which are endorsed by friends, teachers, or other significant persons. If a student's close friends are positive in their responses toward school, it is to be expected that his attitudes will also be positive. The reverse is, of course, also true. Studies of cliques (Damico, 1974) in high schools have indicated that attitudes of clique members toward grades are a more important determiner of grade-point average for their members than scores on an aptitude test.

As the preceding discussion has indicated, attitude formation or change may be a slow process or may occur very rapidly. Most attitudes are more fortuitiously acquired than deliberately cultivated. More than forty years ago Remmers (1934) showed that fifteen minutes of teaching with appropriate materials could produce a measurable change in attitudes. Hence, it is possible for school programs to be planned to improve pupil attitudes. If the object of this improvement is the pupil, his peers, his teacher, the principal, the school as a whole, or some combination of these, then the two forms of the Battle Student Attitude Scale, described in the remainder of this monograph, are valid and reliable instruments for assessing the effectiveness of the program.

II

DEVELOPMENT OF THE SECONDARY AND ELEMENTARY FORMS OF THE BATTLE STUDENT ATTITUDE SCALE

The secondary form of the Student Attitude Scale was developed by Jean A. Battle as a part of the University of Florida's study of educational leadership. This nine-year investigation sought to describe how public school principals performed their jobs and how their different operating patterns influenced such variables as teacher human relations, teacher activities, parent attitudes, curriculum change, pupil acceptance of each other, pupil achievement, and pupil attitudes.

Battle was unable to find an existing instrument which measured the student attitudes in which he was interested. He did, however, find two instruments which did part of the job. The first of these was an instrument by Philips (1951) which in turn was based on an earlier study by Sheerer (1949). Philips' 50-item instrument measured attitudes toward self and others. It had a reported test-retest reliability of .84. Lyman (1941) had developed the second instrument used by Battle. It was a 90-item true-false inventory directed toward feelings involving teachers, students, school social life, school curriculum, and school administration. Drawing upon these two studies, Battle (1954) developed a 60-item scale which measured attitudes toward self, other students, teachers, school administrators, and the school as a whole. Fifteen items measured attitudes toward self; ten items toward other pupils; twenty items toward teachers; ten items toward the principal; and five items assessed attitudes toward the school as a whole. Each statement was worded negatively and students responded to each on a three-point scale of Mostly False, Sometimes, and Mostly True.

The validity (determining whether the instrument measured what it was purported to) of Battle's Student Attitude Scale was obtained by correlating it with Lyman's (1941) and Philips' (1951) instruments, which were deemed to be measuring the same things. An additional criterion used in judging the validity of the Battle Student Attitude Scale was the judgments of persons who knew the pupils and the situation--teachers and the research team. Results correlated adequately with teachers' judgments of attitudes of individual pupils, and the instrument discriminated among classes and schools in a way which corresponded with the judgments of the research team who had worked in the schools for a year. Several split-half reliabilities were calculated (correlating scores on odd-numbered items with scores on even-numbered items

followed by a formula to estimate the correlation of the test with itself) and these ranged from .88 to .94. This procedure measures how consistently the test performs and the obtained correlations are considered fairly high for this type instrument.

The secondary form of the instrument was used in later studies in the leadership project (Grobman, 1958; Luckenbach, 1959; Maynard, 1955) and found to discriminate adequately. There was still a need, however, for an instrument for earlier grades.

The first step in the development of the elementary form of the Battle Student Attitude Scale was to go through the original test, item-by-item, and rewrite each using simpler language wherever possible. Items were also examined as to their appropriateness for children in grades three, four, and five.

The revised form was tried out with pupils below the sixth grade. Besides giving the test, several small groups of children were recruited to go over it item-by-item orally with members of the research staff. Based upon these two processes, additional editing was done. Statistical validation procedures were then used. Form B (elementary) for the lower grades, or for students with lower than sixth grade reading levels, was validated by administering the original secondary form and then, within several days, research Form B to several classes of sixth grade students. Scores on the two forms were correlated. An iterative bidimensional item analysis, correlating each item on the new form with the total score made by the student on the existing secondary form, yielded acceptable items for Form B (see Appendix D).

The item analysis procedure used was that of Wherry and Gaylord; Guertin and Rowe developed a computer program (UFSPL090 - University of Florida Statistical Program Library, 1965) for this procedure. At any given stage the internal criterion is the total score on items retained in the test. After each step, the five percent of the items with the lowest biserial correlations are deleted and a new total score is determined on the remaining items. The item-test correlations are calculated on the new total score and the process is repeated until the only remaining items have sufficiently high item-test biserial correlations.

A biserial correlation is one in which one variable extends over a range of scores and the other is put in one of two possible categories even though there might be underlying normality as in assigning people to such categories as not finishing high school or being high school graduates. Ordinarily a perfect positive correlation is 1.00. The biserial r has a flaw in that correlation can exceed 1.00 even though such correlations are a mathematical artifact. Because of the tendency to overestimate correlations, the .01 level of confidence was used as a

cut-off point in deciding to retain items. This means that if there were really no correlation between the item and the test as a whole, there would be only one chance in a hundred that a correlation that large or larger would be obtained. Only items 6, 19, and 26 are even close to a biserial r of .302, which is significant at the .01 level with the number of subjects involved; all other items were near or above the .001 level of significance.

The reliability of the elementary form of the Battle Student Attitude Scale was estimated using the split-halves method. It was estimated to range from .85 to .88.

III

DIRECTIONS FOR ADMINISTERING AND SCORING BATTLE STUDENT ATTITUDE SCALE SECONDARY AND ELEMENTARY FORMS

This section provides directions on the administration and scoring of both levels of the Battle Student Attitude Scale. Administration of the elementary and secondary forms is similar except that the questions may be read aloud to younger students or those who have reading difficulties--this is not a measurement of students' ability to read.

The elementary form has been developed for use with pupils below the sixth grade level and the secondary form for those pupils in the sixth through twelfth grades. For sixth grade pupils either the elementary or secondary forms may be used. If the sixth grade class is a part of an elementary school, and other grades are being tested, use of the same form will aid in comparison across grades. Likewise, if the sixth grade is a part of a middle or junior high school, administration of the secondary form will permit comparisons to be made among the various grades.

Scoring for both forms of the attitude scale is the same; however, the secondary form contains 60 questions and the elementary form only 58. After administration and scoring, refer to the percentile tables in Appendix C for interpretation of results.

You may elect to have students respond directly on the attitude scale or to place their responses on an answer sheet, either IBM or school developed.

Administration

If students use answer sheets rather than responding on the attitude scale itself, give out the answer sheets first, have them record all identifying information requested, and then give the attitude scale to all students.

Ask students not to write on the attitude scale or start answering the questions until you have given additional directions.

If students mark on the test itself, have them complete the required information at the bottom of the first sheet. They should include their full name, grade, and sex. The date the scale is administered may also be important, especially if the data are to be collected again. If you are the only person in your school administering the scale and are using the results for your own purposes, you may not need all of the information requested on the form; use your own discretion in what you collect. If the entire school or district is completing the attitude scale, there may be additional identifying information requested depending upon the purposes for which it is being used.

Read the introductory paragraph on the front of the scale to your students. Stress that there are no right or wrong answers. They should not answer the way they feel you would want them to, nor the way they feel their parents, or even their best friends, would want them to answer. They are to think about how they feel about each question and answer each in that way.

Explain that for each question there are three possible responses. A statement may be MOSTLY TRUE or TRUE for the student, in which case he would circle the MT (or darken Answer Space No. 1 if using an answer sheet). If a question is about HALF-TRUE and HALF-FALSE (sometimes true and sometimes false) the student is to circle S (or darken the appropriate answer space). And, if the statement is MOSTLY FALSE or FALSE the student should circle MF (or darken Answer Space No. 3). Be sure the students understand how they are to answer before they begin.

Have the students turn to the first page of the attitude scale and begin. If students raise questions about interpretation of particular items, you may answer; be careful not to indicate a response preference. There is no time limit on this attitude scale. Again, questions may be read aloud for those students who have difficulty in reading. Students should answer all questions. When you collect the completed forms, take a few minutes and check to see that this has been done. This is especially important if more than one class is completing the scale; it becomes difficult to return to many rooms and have students fill in missing responses.

Scoring

The higher the score a student receives, the more positive is his attitude toward school. Because the questions are worded negatively, a student response of MOSTLY FALSE receives the highest score and is the more positive.

Each question marked MT (mostly true or true) should be given one point. Each question answered S (sometimes false and sometimes true) should be given two points, and each question answered MF (mostly false or false) should be given three points. Omitted questions (no response) should be scored as if they were marked S--that is, they should be given two points.

To get a total score for each pupil, sum the points given for each question. For example, if an elementary pupil marks 22 questions MF, 31 questions S, and the other 5 MT, his score would be:

22	x	3	=	66
31	x	2	=	62
5	x	1	=	5
				133

IV

WAYS IN WHICH TEST RESULTS MAY BE INTERPRETED

The original scale and the elementary form were developed so that all items contribute to the measurement of the same thing--pupils' attitudes toward their school. All items have a relatively high correlation with the total test score. Hence, total scores and means of total scores may be used for research and evaluation. Since the reliability of a test goes up with increased length, statistical studies are more likely to be valid for the whole test than for part of the test. However, while global scores can indicate general health or general trouble they do not pinpoint specific trouble spots. It is possible, and sometimes desirable, to analyze results on two other levels.

Each test is made up of questions on attitudes toward self, other pupils, teachers, school administrators, and the school as a whole. These subtests may be scored separately and comparisons made or changes analyzed between pre- and posttesting.

Since there are different numbers of items in different subtests (on the secondary form: self, 15 items; other students, 10; teachers, 20; principal, 10; whole school, 5 items), comparisons can be made between sections by dividing section scores by the number of items in that section. For example, if the total for self were 24, for other students 20, for teachers 45, for the principal 18, and for the school as a whole 6, then the item averages by section would be:

self	1.60
other students	2.00
teachers	2.25
principal	1.80
whole school	1.20

When one looks at these results he needs to remember that 1.00 is an unfavorable attitude, 2.00 a neutral attitude, and 3.00 a favorable attitude. On the basis of scores used in our example, attitudes toward self (1.60) would be viewed as unfavorable. Pupils would have a neutral attitude toward "other students" (2.00), a mildly favorable attitude toward "teachers" (2.25), a slightly negative attitude toward the "principal" (1.80), and a very unfavorable attitude toward the "school as a whole" (1.20). The total score would be 113. If this were the score for a single pupil it would have a percentile rank of 9. This would indicate a very unhappy pupil, probably in need of help.

The third level on which results might be analyzed and used is by the individual items on the attitude scale. One study sampled pupils in grades 6, 9, and 11 and analyzed results item-by-item, reporting results in percents. Here are results of two questions:

43. I believe that most of my teachers should be more pleasant and cheerful

Sixth Grade

Total			Boys			Girls		
MT	S	MF	MT	S	MF	MT	S	MF
41	20	39	48	14	38	35	24	41

Ninth Grade

Total			Boys			Girls		
MT	S	MF	MT	S	MF	MT	S	MF
47	29	24	54	22	24	44	33	23

Eleventh Grade

Total			Boys			Girls		
MT	S	MF	MT	S	MF	MT	S	MF
45	26	29	51	21	28	40	29	31

Grades Combined

Total			Boys			Girls		
MT	S	MF	MT	S	MF	MT	S	MF
45	24	31	51	19	30	40	28	32

42. I believe that none of my teachers grade fairly

Sixth Grade

Total			Boys			Girls		
MT	S	MF	MT	S	MF	MT	S	MF
7	10	83	5	18	77	8	5	87

Ninth Grade

Total			Boys			Girls		
MT	S	MF	MT	S	MF	MT	S	MF
4	16	80	7	11	82	2	20	78

Eleventh Grade

Total			Boys			Girls		
MT	S	MF	MT	S	MF	MT	S	MF
4	10	86	5	14	18	3	8	89

Grades Combined

Total			Boys			Girls		
MT	S	MF	MT	S	MF	MT	S	MF
5	12	83	5	15	80	5	10	85

Looking at question 43 it is apparent that all three grade level pupils--over 40 percent--feel teachers could be more pleasant and cheerful. At all three grade levels boys hold this view more intensely than girls. It is strongest for both sexes at grade 9. This information is a basis for possible faculty action. It represents a specific area where improvement should be attempted. On item 42, few pupils at any grade level see teachers as unfair graders. There are almost no differences between boys and girls. Such responses should be gratifying to a faculty.

An item analysis could be the basis for making evaluations of a school system, a school, or a grade within a school. It could also be part of a diagnosis of any of these levels and a basis for planning intervention strategies which might improve conditions.

If race were added to sex and grade level in the item analysis, it would be possible to pinpoint particular areas which are causes of concern to students by sex, by ethnic group, or by grade level.

V

THE BATTLE STUDENT ATTITUDE SCALE AS A RESEARCH AND EVALUATION TOOL

The Battle Student Attitude Scale can be used as either a research tool or an evaluation instrument. What is the difference?

An example of a research use within a single school occurred at the P. K. Yonge Laboratory School in the summer of 1972 when an effort was being made to get the socioeconomic and racial composition of the student body to be representative of the State as a whole. The new students were randomized and a special summer orientation program was developed for half of them. This design can be illustrated as follows:

R X O O

R O O

The R indicates random assignment; O is a measurement, X is the orientation program. Later O's are post-posttest scores collected in the late fall. The pupils in the program had significantly better attitudes than those not in the program and these differences tended to persist.

An example of a large-scale research use was a study of many schools in one county where attitudes were related to the operating patterns of school principals. It was found that principals who tended to operate in an authoritarian manner tended to have pupils with poorer attitudes; pupils looked at the principal as someone on the opposing team rather than as a friend, a counselor, or an impartial judge. Where the principal was relatively democratic, pupils tended to see him or her as a person who would help with a personal problem, would treat the pupil the same regardless of the family's social or financial status, and would welcome suggestions from the pupil.

While evaluation and research often overlap, more and more experts are coming to view evaluation as a process of collecting and analyzing data to help decision makers make more valid judgments. Thus, a school faculty might wish to know the present status of pupil morale and any trends in morale. In order to get this information they could periodically test pupils and look at the results. These results might be compared with the norms provided in this monograph.

If a school wished to initiate such an evaluation program, several suggestions are appropriate.

1. It is not necessary to test every pupil every time. If testing is planned three times during the year, pupils should be randomly divided into three groups. This is best done by using a table of random numbers. These are found in the back of most statistics books. It is better not to use every third number on the class rolls. There are several reasons for randomizing: (a) groups are equal except for chance differences; (b) testing part of the pupils saves time and money and when randomly done gives almost the same results that would be obtained if all pupils were tested; and (c) it avoids biases due to familiarity with the test.

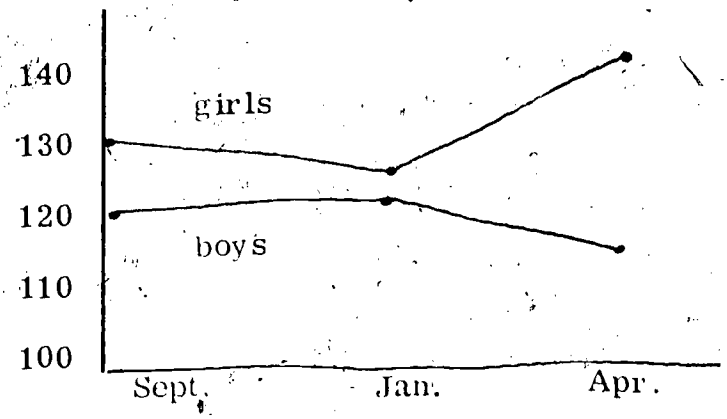
2. Pupils new to the school should have a few weeks to get acquainted before they are tested. Probably late September or early October would be a suitable time for a pretest. Also, avoid testing just before holidays, big games, social events, the very end of the school day, or the last day or two of the school year.

3. Either early December or late January might be a good time for a second test administration. The third test could be given in late April or early May.

4. A test schedule of fall and spring without the winter administration is another possibility for schools.

5. Some schools may wish to develop a schedule of giving an attitude measure once a year at approximately the same time. This procedure enables a school to examine trends over time.

6. By obtaining information such as sex, race, and grade level, comparisons can be made. Means may be calculated and graphs made. The following situation could be revea ing.



This would indicate that girls tend to have better attitudes than boys and that their attitudes went up over the course of the year whereas boys' attitudes worsened.

VI

RESEARCH DESIGN AND THE MEASUREMENT OF ATTITUDES WITHIN CLASSROOMS

When a program is being used to improve pupil attitudes, great care must be taken in the experimental design in order that those involved in conducting the program may have confidence that changes are related to, or caused by, the program.

An educational study has internal validity if the treatment is the reason for the change. It has external validity if it can be generalized--that is, the treatment will work with other subjects and in other places.

There are many alternative explanations for a change besides the treatment. These alternative explanations are such things as history--events external to the study; maturation--changes within the subjects caused by growth, fatigue, illness; regression--a tendency of high or low scorers to move toward the middle on retesting; testing--the advantage of practice and knowing what to expect. These are just a few of the possible threats to internal validity. Many of these threats can be controlled by proper experimental design.

One of the worse threats to generalizability is that the groups being studied may not be representative of the population about which one wants to generalize. In order to insure external validity the sample should be randomly selected from the population about which one wishes to generalize. Thus, if one wished to have a program to reduce drop-outs and had identified the high school group under 16 considered most likely to drop out, membership in the program should be randomly selected from the total population rather than taking the severest cases, which might seem more humane.

What are some experimental designs that might be used in a study of student attitudes within classrooms? The simplest design, but not an experimental one, may be represented by:

X O

In this design X is a treatment and O is a measurement, observation, or other data gathering procedure. The X could be a novel curriculum idea of a teacher. After using this novel idea, the O is the test. A high

score could mean nothing, for the teacher does not know whether or not the pupils could have done as well without the instruction. So the teacher modifies her procedures and uses the following design:

$$O_1 \quad X \quad O_2$$

The teacher has given a pretest, her instruction (X), and a posttest. She then calculates O_2-O_1--the pretest-score subtracted from the post-test score. However, she still cannot be certain that X is the reason for the change. Something could have happened external to the study to influence the change, such as a widely viewed television program. The change might have resulted from the practice effect of the first test. If she were using young children they could be stronger, more mature, or more rested on the second test. If she had a slow group which tested very low the first time, regression could account for the difference. So she tries again. She recruits a friend who has a similar class at the same time to serve as a control and now the design becomes:

$$\begin{array}{ccc} O_1 & X & O_2 \\ \text{----------} & & \\ O_3 & & O_4 \end{array}$$

The broken line indicates the groups are not equivalent. This time she calculates O_2-O_1, and O_4-O_3. If the experimental difference is larger than the control difference, can she be sure that it was X which made the difference? Not yet! Suppose that her school has ability grouping and the friend had a low group and she had a high group. The bigger difference could be explained by the bright group's having learned more in a given time than the slow group. So a further refinement in the experimental design would be desirable.

$$\begin{array}{cccc} R & O_1 & X & O_2 \\ R & O_1 & & O_2 \end{array}$$

In this design subjects were randomly assigned to experimental and control groups. This assures, except for chance, pre-experimental equivalence. There is still a possibility that initial testing might influence outcomes. To guard against this, subjects could be randomized within classes, half of them taking the pretest and the other half the posttest. This design follows:

R'	R	O_1	X	
	R		X	O_2
R'	R	O_1		
	R			O_2

The R' indicates random assignment to classes and also random assignment of treatment to a class. This is a very strong design, controlling for most sources of internal and external validity.

For persons who are interested in an extended and thorough treatment of experimental designs, the monograph Experimental and Quasi-Experimental Designs for Research (Campbell & Stanley, 1963) is highly recommended. It discusses in detail some 16 designs as well as eight threats to internal validity and four threats to external validity.

APPENDIX A

ATTITUDE SCALE

ELEMENTARY FORM

BATTLE STUDENT ATTITUDE SCALE

BATTLE STUDENT ATTITUDE SCALE
Form B

P. K. Yonge Laboratory School
University of Florida

Students of this school, like students of all schools, have different feelings about things. This booklet is for you to express your feelings toward your self, other students, your teachers, your principal, and your school as a whole. This is NOT a test. There are no "Right" or "Wrong" answers as such. EVERY ANSWER THAT TELLS HOW YOU FEEL IS A RIGHT ANSWER FOR YOU. By marking how you feel about each statement, you can help your school become a better school.

DIRECTIONS: Two sets of directions are provided--one for marking on an answer sheet and the other for marking in this booklet.

1. Marking on an answer sheet: Please place your name, grade, date, and sex on the spaces provided on the top of the answer sheet.

Fill in Answer Space No. 1 if the statement is mostly true or true for you.

Fill in Answer Space No. 2 if the statement is about half-true and half-false for you.

Fill in Answer Space No. 3 if the statement is mostly-false or false for you.

2. Marking in this booklet: Please place your name, grade, date, and sex on the spaces provided at the bottom of this page.

Circle MT if the statement is mostly true or true for you.

Circle S if the statement is about half-true and half-false for you.

Circle MF if the statement is mostly-false or false for you.

NAME _____ GRADE _____

BOY _____ GIRL _____ TODAY'S DATE _____

MT	S	MF	1.	It is very hard for me to meet new people or talk to my whole class.
MT	S	MF	2.	I feel like I need to make excuses lots of times.
MT	S	MF	3.	Sometimes I will change the way I act just to make someone else like me.
MT	S	MF	4.	I worry if I think someone may not like me.
MT	S	MF	5.	I don't think I can be of much help to other people.
MT	S	MF	6.	When I first meet someone, I want to know if they like me.
MT	S	MF	7.	I don't think I deserve the good things some people say about me.
MT	S	MF	8.	I am often afraid because of something I have done wrong.
MT	S	MF	9.	I am often afraid because of something I might do wrong.
MT	S	MF	10.	I could be happier if I were not afraid of some things I think or do.
MT	S	MF	11.	It is hard for me to go to parties and other large groups.
MT	S	MF	12.	When my feelings change from happy to sad or sad to happy, I do not know why.
MT	S	MF	13.	I don't like some of the people in my class.
MT	S	MF	14.	I feel I am left out of most things at school.
MT	S	MF	15.	Members of my class do not know each other very well.
MT	S	MF	16.	I feel unhappy a lot of the time.
MT	S	MF	17.	Many people at this school leave others out of activities in school.

MT	S	MF	18.	A few students at this school run everything.
MT	S	MF	19.	Many of the students at this school do not act their age.
MT	S	MF	20.	Many boys and girls do not feel they belong at this school.
MT	S	MF	21.	Not much is done to help new students feel welcome at this school.
MT	S	MF	22.	It is hard for me to really be interested in the things some of my friends do.
MT	S	MF	23.	Most students at this school don't try to help other students who are in trouble.
MT	S	MF	24.	When I am first getting to know others my own age, I compare myself with them to see who is better.
MT	S	MF	25.	I think that the teachers usually will not listen to student ideas.
MT	S	MF	26.	I feel that few of the teachers are willing to help one student at a time, that is to help a student individually.
MT	S	MF	27.	Some of the teachers favor girls more than boys.
MT	S	MF	28.	Some of the teachers favor boys more than girls.
MT	S	MF	29.	I feel that many of the teachers think I know less than I do know.
MT	S	MF	30.	It seems to me that some of the teachers often talk unkindly to students.
MT	S	MF	31.	It seems to me that several of the teachers are nervous and easily excited.
MT	S	MF	32.	Some of the teachers are always using words that are too big for me to understand.

MT	S	MF	33.	I believe that most of the teachers are too strict.
MT	S	MF	34.	The teachers expect too much of me.
MT	S	MF	35.	I believe I have a teacher who would give a higher grade because a student complimented him or her or did a favor for the teacher.
MT	S	MF	36.	I hate at least one of the teachers.
MT	S	MF	37.	I think that some of the teachers seem to feel that they are always right and the student is always wrong.
MT	S	MF	38.	I believe that some of the teachers try to make students afraid of them.
MT	S	MF	39.	It seems to me that some of the teachers are inclined to be "bossy".
MT	S	MF	40.	I feel that none of the teachers grade fairly.
MT	S	MF	41.	I believe that most of the teachers should be more pleasant and cheerful.
MT	S	MF	42.	I think that most of the teachers would rather not see and talk to me when school is out.
MT	S	MF	43.	I feel that the teachers do not want me to express my real opinion, thoughts, or ideas.
MT	S	MF	44.	I don't think the things I am learning in school will help me when I am an adult.
MT	S	MF	45.	Students don't get a chance to make friends in other rooms at this school.
MT	S	MF	46.	I believe there are too many rules in this school.
MT	S	MF	47.	Some students from special families get treated better than students from other families.
MT	S	MF	48.	The books and things we use in school are old and not up-to-date.

MT	S	MF	49.	I think things get torn up and treated badly at this school.
MT	S	MF	50.	My parents don't know very much about my classwork or this school.
MT	S	MF	51.	I feel that the Principal does not like suggestions from the students.
MT	S	MF	52.	I think the Principal is too strict.
MT	S	MF	53.	I would not go to the Principal's office to talk to him unless I was made to go.
MT	S	MF	54.	I don't think the Principal would want to help me with a personal problem.
MT	S	MF	55.	I believe this school would run just as well without our Principal.
MT	S	MF	56.	I don't know what our Principal does to make this school run better.
MT	S	MF	57.	There are many things about my Principal that I wish he or she would improve.
MT	S	MF	58.	I believe this school could be run much better.

APPENDIX B

ATTITUDE SCALE

SECONDARY FORM

BATTLE STUDENT ATTITUDE SCALE

BATTLE STUDENT ATTITUDE SCALE
Form A
University of Florida

Students of this school, like students of all schools, have different feelings about things. This booklet is for you to express your feelings toward yourself, other students, your teachers, your school administration, and your school as a whole. This is NOT a test. There are no "Right" or "Wrong" answers, as such. EVERY ANSWER THAT TELLS HOW YOU FEEL IS A RIGHT ANSWER FOR YOU. By marking how you feel about each statement, you can help your school become a better school.

Fill in the following blanks:

NAME _____ SEX _____ DATE _____

SCHOOL _____ GRADE AND SECTION _____

DIRECTIONS:

Draw a circle around MT if the statement is mostly true or true for you.

Draw a circle around S if the statement is about half-true and half-false for you.

Draw a circle around MF if the statement is mostly-false or false for you.

MT	S	MF	1.	I think I am too shy.
MT	S	MF	2.	I often feel the need to make excuses for the way I act.
MT	S	MF	3.	I often change the way I do things or what I believe in order to please someone else.
MT	S	MF	4.	It worries me to think that some of the people I know may dislike me.
MT	S	MF	5.	I feel that I have little to give to the helping of others.

MT	S	MF	6.	I feel that I might be a failure if I don't make certain changes in my life.
MT	S	MF	7.	When meeting a person for the first time, I want to know at once whether he or she likes me.
MT	S	MF	8.	Although people sometimes praise me, I feel that I do not really earn the praise.
MT	S	MF	9.	I become afraid when I think of something I have done wrong or might do wrong in the future.
MT	S	MF	10.	I could be happier if I didn't have certain faults or fears about myself.
MT	S	MF	11.	I am not at ease at parties and other social affairs.
MT	S	MF	12.	I don't know what I really want out of life.
MT	S	MF	13.	I feel that I am too often left out of things.
MT	S	MF	14.	When my feelings change from sad to happy and happy to sad, I do not know why.
MT	S	MF	15.	I feel unhappy much of the time.
MT	S	MF	16.	I dislike several of my classmates.
MT	S	MF	17.	Members of my class do not know each other well.
MT	S	MF	18.	Students at this school are snobbish or "stuck-up."
MT	S	MF	19.	Many of my classmates do not act as old as their age.
MT	S	MF	20.	A few students at this school run all the student affairs.
MT	S	MF	21.	Many boys and girls at this school feel that they do not "belong" here.
MT	S	MF	22.	There is little effort at this school to make new students feel "at home."

MT	S	MF	23.	Students at this school do not try to help other students who are in trouble.
MT	S	MF	24.	I find it hard to take a real interest in the activities of some of my friends.
MT	S	MF	25.	When I am first getting to know a person of my age, I compare him or her with me to see whether I am better or not as good as this person.
MT	S	MF	26.	I think that my teachers in general will not listen enough to student ideas.
MT	S	MF	27.	I feel that few of my teachers are willing to help one student at a time (that is to help a student individually).
MT	S	MF	28.	Some of my teachers favor girls more than boys.
MT	S	MF	29.	Some of my teachers favor boys more than girls.
MT	S	MF	30.	Not many of my teachers are up to date (as they are behind the times) in what they teach and how they teach it.
MT	S	MF	31.	I feel that many of my teachers think I know less than I do know.
MT	S	MF	32.	It seems to me that some of my teachers often talk unkindly to students.
MT	S	MF	33.	It seems to me that several of my teachers are nervous and easily excited.
MT	S	MF	34.	Some of my teachers are always using words that are too big for me to understand.
MT	S	MF	35.	I believe that most of my teachers are too strict.
MT	S	MF	36.	My teachers expect too much of me.
MT	S	MF	37.	I believe I have a teacher who would give a higher grade because a student complimented him or her or did a favor for the teachers.

MT	S	MF	38.	I hate at least one of my teachers.
MT	S	MF	39.	I think that some of my teachers seem to feel that they are always right and the student is always wrong.
MT	S	MF	40.	I believe that some of my teachers try to make students afraid of them.
MT	S	MF	41.	It seems to me that some of my teachers are inclined to be "bossy."
MT	S	MF	42.	I feel that none of my teachers grade fairly.
MT	S	MF	43.	I believe that most of my teachers should be more pleasant and cheerful.
MT	S	MF	44.	I think that most of my teachers would rather not see and talk to me when school is out.
MT	S	MF	45.	In many of my classes I feel that the teachers do not want me to express my real opinion, thoughts, or ideas.
MT	S	MF	46.	I feel that the principal does not like suggestions from the students.
MT	S	MF	47.	I think the principal is too strict.
MT	S	MF	48.	I would not go to the principal's office to talk to him unless I was made to go.
MT	S	MF	49.	I believe there are too many rules in this school.
MT	S	MF	50.	I don't believe the principal would want to help me with a personal problem.
MT	S	MF	51.	It seems to me that if a student is from a family who has more money, or is considered more important, that he or she will get better treatment from the principal.
MT	S	MF	52.	I believe this school would run just as well without our principal.
MT	S	MF	53.	I don't know what our principal does to make this school better.

MT	S	MF	54.	There are many things about my principal that I wish he or she would improve.
MT	S	MF	55.	I believe this school could be run much better.
MT	S	MF	56.	It seems to me that my textbooks are "behind the times" or not up to date.
MT	S	MF	57.	I don't believe that any of my courses or subjects will be useful to me in the work I might do when I finish school.
MT	S	MF	58.	I think there is little opportunity or chance for students in this school of different grades to meet and get to know each other.
MT	S	MF	59.	I think there are too many things that our school organizations are not allowed to do.
MT	S	MF	60.	At this school art exhibits, musical programs, assembly programs, and the like are not put on to help students learn more but to show them off.

APPENDIX C

NORMS AND STANINES

ELEMENTARY AND SECONDARY FORMS

BATTLE STUDENT ATTITUDE SCALE

PERCENTILE RANKS

ELEMENTARY FORM
BATTLE STUDENT ATTITUDE SCALE

Scores	Percentile Rank
158-161	99.5
156-157	99
150-155	98
146-149	95
142-145	90
138-141	85
133-137	80
128-132	70
123-127	60
119-122	50
115-118	40
112-114	30
110-111	25
107-109	20
102-106	15
98-101	10
92- 97	5
90- 92	2
58- 89	1

STANINES

ELEMENTARY FORM
BATTLE STUDENT ATTITUDE SCALE

Stanine	Scores
9	152-174
8	144-151
7	136-143
6	128-135
5	120-127
4	112-119
3	104-111
2	96-103
1	58- 95

PERCENTILE RANKS

SECONDARY FORM
BATTLE STUDENT ATTITUDE SCALE

Scores	Percentile Rank	Scores	Percentile Rank
173-180	99	138	44
170-172	98	137	42
169	97	136	40
168	96	135	38
167	95	134	37
165-166	94	133	36
164	93	132	35
163	92	131	33
162	91	130	31
161	90	129	30
160	89	128	28
159	87	127	27
158	85	126	25
156	81	125	23
155	79	124	22
154	77	123	20
153	75	122	18
152	73	120	16
151	71	119	15
150	69	118	13
149	67	117	12
148	65	116	11
147	63	115	10
146	61	112-113	9
145	59	110-111	8
144	56	108-109	7
143	54	107	6
142	52	105-106	5
141	50	102-104	4
140	47	98-101	3
139	45	92- 97	2
		70- 91	1

STANINES

SECONDARY FORM
BATTLE STUDENT ATTITUDE SCALE

Stanine	Scores
9	171-180
8	162-170
7	153-161
6	144-152
5	135-143
4	126-134
3	117-125
2	98-116
1	60- 97

APPENDIX D

ITEM ANALYSIS

ELEMENTARY FORM

BATTLE STUDENT ATTITUDE SCALE

ITERATIVE BIDIMENSIONAL ITEM ANALYSIS
CORRELATION COEFFICIENTS

ELEMENTARY FORM
BATTLE STUDENT ATTITUDE SCALE

Item Number	Biserial r	Item Number	Biserial r
1	1.222	30	1.335
2	1.285	31	1.497
3	1.057	32	1.504
4	0.927	33	1.471
5	1.365	34	1.891
6	0.388	35	1.290
7	0.739	36	1.375
8	0.737	37	1.702
9	0.929	38	1.494
10	0.975	39	1.679
11	1.287	40	1.005
12	1.061	41	1.319
13	0.652	42	1.379
14	1.221	43	1.180
15	1.268	44	1.007
16	1.620	45	1.565
17	0.690	46	2.042
18	0.655	47	0.742
19	0.501	48	1.225
20	1.222	49	1.433
21	1.092	50	1.106
22	1.266	51	1.387
23	1.158	52	0.871
24	1.645	53	0.900
25	1.347	54	1.288
26	0.411	55	1.139
27	1.183	56	0.971
28	1.439	57	1.366
29	1.130	58	1.693

REFERENCES

Battle, J. Techniques and instruments for measuring certain student human relations. Unpublished doctoral dissertation, University of Florida, 1954.

Cadmus, H. The behavioral and structural dynamics of social stratification as manifested in a racially integrated first grade classroom. Unpublished doctoral dissertation, University of Florida, 1974.

Campbell, D. & Stanley, J. Experimental and quasi-experimental designs for research. Chicago: Rand McNally & Co., 1963.

Damico, S. Education by peers: A clique study (P. K. Yonge Monograph No. 9). Gainesville: University of Florida, 1974.

Grobman, H. The public school principal's operational behavior, theory and practice, and related school and community interactions. Unpublished doctoral dissertation, University of Florida, 1958.

Luckenbach, L. The effect of a principal's inservice leadership training course upon his operational behavior pattern and upon attitudes of teachers, pupils, and parents. Unpublished doctoral dissertation, University of Florida, 1959.

Lyman, H. Differentiating attitudes of students at two high schools by use of a school attitude inventory. Educational and Psychological Measurement, 1941, 9, 227-232.

Maynard, H. A study of pupil human relations within the school as influenced by the principal's pattern of behavior. Unpublished doctoral dissertation, University of Florida, 1955.

Philips, E. Attitude toward self and others: a brief questionnaire report. Journal of Consulting Psychology, 1951, 15, 79-81.

Raths, L. Identifying the social acceptance of children. Educational Research Bulletin, 1943, 22, 72-74.

_____ Evidence relating to the validity of the social acceptance test. Educational Research Bulletin, 1947, 26, 141-146.

Remmers, H. (Ed.) Studies in attitudes (Purdue University Bulletin No. 26). Lafayette: Purdue University, 1934.

Shaw, M. & Wright, J. Scales for the measurement of attitudes. New York: McGraw-Hill Book Company, 1967.

Sheerer, E. An analysis of the relationship between acceptance of and respect for self and acceptance of and respect for others in ten counseling cases. Journal of Consulting Psychology, 1949, 13, 172-174.

Stagner, R. Attitudes. In W. S. Monroe (Ed.) The encyclopedia of educational research. Washington, D. C.: The American Educational Research Association, 1941.