

DEVELOPMENT OF THE IDEAL-STUDENT VALUES
INVENTORY WITH RESULTING COMPARISON OF
TEACHER VALUES

Thesis for the Degree of Ph. D.
MICHIGAN STATE UNIVERSITY
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1964



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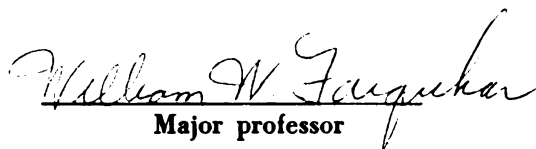
DEVELOPMENT OF THE IDEAL-STUDENT VALUES INVENTORY
WITH
RESULTING COMPARISON OF TEACHER VALUES

presented by

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has been accepted towards fulfillment
of the requirements for

Ph.D degree in EDUCATION


Major professor

Date May 13, 1964

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ABSTRACT

DEVELOPMENT OF THE IDEAL-STUDENT VALUES INVENTORY WITH RESULTING COMPARISON OF TEACHER VALUES

by William Henry Thweatt

Values play a crucial role in determining the philosophy, processes, and goals of education. The effective implementation of this role is, to a large extent, dependent upon the personal values of individual teachers. The research conducted in the study is an attempt to measure some teacher values as revealed by their concept of the ideal student.

The study falls into three main divisions:

1. To determine what values relating to the concept of the ideal student were held most in common by teachers,
2. To develop an instrument for measuring the values--The Ideal-Student Values Inventory, and
3. To make a comparison of elementary and secondary teachers' values as measured by the instrument.

Values were defined operationally as broad abstractions from the self concept revealed in attitudes toward specific objects or behavior.

The values, so defined, incorporated in the instrument were selected from personal interviews with 24 teachers who were asked to describe what they thought the ideal student was like. That attitudinal statements could be written which related to a single underlying value was tested by a process validation study of a single value scale--Achievement.

Using the values selected from the interviews with the teachers as the frame of reference a total of 250 statements were written to reflect attitudes toward specific objects or behaviors. Teachers were asked to respond to the statements as they thought the ideal student would. A sample of 40 teachers screened the items for content validity by classifying each item in one of the value categories. The items retained had 100 per cent inter-judge agreement.

The final form of the instrument included 158 statements that related to eight values--achievement, orderliness, perseverance, control of aggression, frugality, care of property, rationality, and locus of responsibility. It was administered to a sample of 100 elementary and 100 secondary teachers from Michigan public schools and to a sample of identical magnitude for cross-validating the findings.

Analyzing teacher responses to each item by using the chi square model, 110 statements were found to discriminate between low and high scorers at the .0004 level. Hoyt's analysis of variance method was used to estimate reliability for each sub-scale and for the total

scale. Except for sub-scale care of property (r equals .33), reliabilities were at or near an acceptable level. Reliability for the total scale was .82 for elementary and .87 for secondary samples. Inter-correlations of the sub-scales were insignificant except for sub-scale care of property which was dropped.

A chi square model analysis of item responses indicated no significant differences on 98 items between the responses of elementary and secondary teachers for both the validation and cross-validation samples. Likewise, "t" tests revealed no significant difference between the scores of the samples on any of the sub-scales or the total scale.

Consideration of the data warranted the following conclusions. The teachers tested indicated that they want the ideal student to prize highly the values of achievement, orderliness, perseverance, frugality, rationality and to control aggression strongly. Although there may be other areas of high agreement, the values measured by the Ideal-Student Values Inventory do constitute a core of "typical-teacher" values. Teachers favor the ideal student accepting responsibility for initiating and evaluating his efforts, but clearly want to retain for themselves the responsibility for structuring, supporting, and directing the work in the classroom.

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1966

DEVELOPMENT OF THE IDEAL-STUDENT VALUES INVENTORY
WITH RESULTING COMPARISON OF TEACHER VALUES

By

William Henry Thweatt

A THESIS

Submitted to
Michigan State University
in partial fulfillment of the requirements
for the degree of

DOCTOR OF PHILOSOPHY

College of Education

1964

6-26589
3-17-66

ACKNOWLEDGMENTS

To the hundreds of Michigan public school teachers who took the inventory for assistance and advice,

To the many faculty members of the College of Education of Michigan State University for freely relinquishing class time,

To the staff of the Counseling Center at Michigan State University for what they meant to me professionally and personally,

To Dr. Newton E. James, Director of the Student Counseling Bureau of the University of Arizona for his understanding and patience,

To my guidance committee, Dr. John E. Jordan for excellent course guidance, Dr. Walter F. Johnson for intellectual challenge and stimulation, Dr. Bill L. Kell for most valuable supervision and personal help, and Dr. William W. Farquhar for his research acuity and supervision of this study, and finally,

To Gloria, Melody, and Bill for love and loyalty,

My deepest, sincerest appreciation.

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CHAPTER I

THE PROBLEM

If the purpose of education is to help the individual student reach his full potential for development and to make a maximal contribution to society then, indeed, values are of paramount importance to the process. "If children are to live contributingly in a democracy, they must have developed values."¹ The Department of Elementary School Principals publication expresses this point of view as follows:

The idea of spiritual values may be associated with the idea of living on a high plane. A human being has . . . insights, aspirations, and possibilities that are uniquely human. They represent spiritual values that are to be attained by good living in the natural world. Ideals of justice and cooperation, love of beauty, intellectual curiosity--such values and aspirations develop in human beings.²

Any curriculum book has much to say about the importance of democratic goals and values,³ though little is said about how to teach

¹J. Murray Lee and Doris May Lee, The Child and His Curriculum (New York: Appleton-Century-Crafts, Inc., 1950), p. 303.

²Department of Elementary School Principals, Spiritual Values in the Elementary School, National Elementary Principal, Twenty-Sixth Yearbook, Vol. 27 (National Education Association, September, 1947), p. 14.

³Lee and Lee, op. cit., p. 202.

or develop them. Lee and Lee⁴ give three pages out of 686 to a discussion of values. The only practical statement they make is, "Teachers need to agree on the values they consider important and carefully analyze the program to develop such values."⁵

The Yearbook of the Department of Elementary School Principals quoted above and the Seventh Yearbook of the John Dewey Society⁶ are exceptions and are devoted to the study and promotion of "spiritual values."

Sorenson and Dimock state that the learning of values is different from learning skills, techniques, and the acquisition of knowledge. "Values seem to be developed out of the total experience. Feelings for them are generated or dulled by many factors, but they can be nurtured."⁷ The broader matrix of value development has been substantiated by the studies of social psychologists, which indicate that neither intent to learn, nor indoctrination, employing reinforcement, is always effective.

It would seem logical to assume that values are at least partially learned through personal interaction with significant others. In

⁴Ibid.

⁵Ibid., p. 303.

⁶John S. Brudacher and others, The Public Schools and Spiritual Values, Seventh Yearbook of the John Dewey Society (New York: Harper and Brothers, 1944).

⁷Roy Sorenson and Hedley S. Dimock, Designing Education in Values (New York: Association Press, 1955), p. 31.

psychoanalytic terminology they develop in the individual through identification with these significant others and may be incorporated without clear understanding at the time. Prejudice seemingly, in many cases, is so learned. If there be any truth in this line of reasoning then the personal values held by teachers, who are definitely significant others in the lives of children, and projected in the class room are of extreme importance.

Statement of the Problem

The problem investigated in this research falls into two main divisions:

1. To determine what specific values or core of values relating to the ideal student are held most in common by teachers and whether or not there is a "typical-teacher" set of values in our culture.
2. To develop a scale to measure these values and in so doing to make a comparison of elementary and secondary teachers' values.

The study then will be a descriptive type of research. However, as a basis for the study an attempt was made to develop a new theoretical definition and formulation of the relationship that exists between values, attitudes, interests, and needs.

Need for an Instrument

The publication lists of tests which were designed for the areas of education and values were studied and the descriptive

literature was surveyed, but no instrument related to values in the area of education was found. In the Fifth Mental Measurements Yearbook⁸ only 16 out of the 957 tests listed or reviewed relate to teachers and these are either rating scales or aptitude tests. In the fourth edition of Buros⁹ the same situation exists with one exception. The Minnesota Teacher Attitude Inventory might seem to be appropriate for the study. According to Arnold, "the basic approach is sound"¹⁰ and Cronbach feels that "test development of exceptional quality lies behind this inventory."¹¹ Split-half reliability was .93 and retest reliability was .70. Two validity studies were made using three criteria: student, principal, and visiting-expert ratings. Validity coefficients of .56 and .60 were obtained for the experimental and final form, respectively.

Yet when the rationale of the Inventory was examined it was seen that the inventory had one major purpose, "to measure those attitudes of a teacher which will predict how well he will get along with pupils in interpersonal relationships."¹² However, the attitudes are

⁸Oscar Krisen Buros, editor, The Fifth Mental Measurements Yearbook (Highland Park, New Jersey: The Gryphon Press, 1959).

⁹Oscar Krisen Buros, editor, The Fourth Mental Measurements Yearbook (Highland Park, New Jersey: The Gryphon Press, 1953), p. 801.

¹⁰L. D. Arnold, "MTAI Review" in Buros, Ibid., pp. 797-801.

¹¹Lee J. Cronbach, "MTAI Review" in Buros, Ibid., pp. 801-802.

¹²Walter W. Cook, Carroll H. Leeds, and Robert Callis, Minnesota Teacher Attitudes Inventory Manual (New York: The Psychological Corporation, 1951), p. 3.

defined in only the most general, descriptive way. An example is, "Group solidarity resulting from common goals, common understandings, common efforts, common difficulties and common achievements should characterize the class."¹³

The greatest deficiency of the MTAI, so far as the purpose of this study is concerned, is that the attitudes are not catalogued, nor does one know empirically to what attitude a particular item relates. One cannot say what attitudes are being measured, but only that a teacher with good teacher-pupil relations scores high, while a teacher with poor teacher-pupil relations scores low. Cronbach offers similar criticism, "A test designed to measure a psychological quality should be more homogeneous and scores on items should have a logical meaning."¹⁴

When one turns to the literature on psychological studies of value one finds the field dominated by The Allport-Vernon Study of Values, originally published in 1931 and revised in 1951 and again in 1960. Dukes, surveying the literature of psychological value studies up to 1955, states, "The large majority of investigators employ the Allport-Vernon Study of Values."¹⁵ A survey of subsequent literature revealed that this is still true.

¹³Ibid.

¹⁴Cronbach, op. cit., p. 801.

¹⁵William F. Dukes, "Psychological Studies of Values," Psychological Bulletin, 52 (1955), p. 24.

Although the Study of Values has been widely used to measure how such factors as sex differences, body and personality types, academic majors, intelligence, aptitudes, achievement, friendship, marriage, and vocational interests relate to values, the instrument was rejected for the study for two reasons:

1. It is not strictly a measure of values, but of "types." In spite of the title, the test manual states, "The Study of Values aims to measure the relative prominence of six basic interests or motives in personality. . . ." ¹⁶ These "basic interests" are simply Spranger's armchair theories of types of men. Gage asks, "Have not Spranger's armchair speculations held sway long enough?" ¹⁷ Humphreys raises serious objections "against the use of 'type' concepts, especially ipsative scales as are embodied in the Study of Values." ¹⁸

2. Even if one accepts these six basic types as values, they are not distinct, individual ones, but a combination of several different factors. In 1952 Brogden ¹⁹ reported a factor analysis of the test which

¹⁶Gordon W. Allport, Philip E. Vernon, and Gardner Lindzey, Study of Values Manual (Boston: Houghton Mifflin Co., 1960), p. 3.

¹⁷N. L. Gage, "Review of Allport-Vernon-Lindzey, Study of Values," in Buros, fifth edition, op. cit., p. 114.

¹⁸Lloyd G. Humphreys, "Characteristics of Type Concepts With Special Reference to Sheldon's Typology," Psychological Bulletin, 54, p. 218.

¹⁹Hubert E. Brogden, "The Primary Personal Values Measured by the Allport-Vernon Test, 'A Study of Values'," Psychological Monographs, 66, pp. 1-37.

yielded 10 first order factors--general aesthetic interest, interest in fine arts, belief in culture, anti-religious evaluative tendency, anti-aggression, humanitarian tendency, interest in science, tendency toward liberalism, theoretic interest, and "rugged individualism." Adams and Brown criticize the instrument on this point. "The Allport-Vernon test confounds to some extent two psychological dimensions which can be separated, namely, interest and value."²⁰

Prince's Differential Values Inventory²¹ was rejected for similar reasons. Prince developed his inventory using as the theoretical basis, Spindler's "traditional" and "emergent" values.²² However, some of Spindler's values were combined to formulate four "traditional" value categories--puritan morality, work success ethic, individualism, and future time orientation--and four "emergent" value categories--sociability, relativistic moral attitudes, conformity, and hedonism or present time orientation. The categories were felt to be too broad, including too many undetermined values.

²⁰Joe Adams and Donald R. Brown, "Values, Word Frequencies and Perception," Psychological Review, 60 (1953), p. 52.

²¹Richard Prince, "A Study of the Relationships between Individual Values and Administrative Effectiveness in the School Situation." Unpublished Ph. D. dissertation, University of Chicago, 1957.

²²George D. Spindler, "Education in a Transforming American Culture," Harvard Educational Review, 25 (Summer, 1955), pp. 148-256.

The scales that were specific enough for the purpose of this research dealt with only one value. It would have required an impractical amount of testing to use a combination of any of those available. Therefore, it became necessary to develop an instrument that measured a number of values; an instrument that would at the same time, make these values as distinct and specific as possible.

Survey of Theories and Definitions

"There appears to be no generally accepted, simple definition of values."²³ This statement by Patterson could be classified among the great understatements. Indeed, nowhere in educational, psychological, and sociological literature will one find less agreement, preciseness, and clear differentiation of terms than in the discussion of attitudes and values.

Attitudes as defined by Allport²⁴ became a key concept of psychologists. A man's personality was conceived as a more or less integrated system of attitudes. Each attitude was disposed to evaluate some entity. This entity was the object of the attitude and was also the value. The approach raises two serious questions: (1) Does the value lie in an external object or the individual's subjective frame of reference?

²³C. H. Patterson, Counseling and Psychotherapy: Theory and Practice (New York: Harper and Brothers, 1959), p. 54.

²⁴Gordon W. Allport, Personality: A Psychological Interpretation (New York: Henry Holt & Co., 1937), p. 293.

(2) Is it not a confusion of terms to state that an attitude "evaluates" since evaluating is simply determination of value?

Katz followed the same line of reasoning. To him an attitude is a "predisposition to evaluate"²⁵ some symbol or object. An attitude is further defined as including an affective core and a belief. "Attitudes include also beliefs."²⁶ When attitudes are organized into an hierarchial structure they compromise value systems. Would not it be more logical and consistent to say that value systems are made up of values rather than attitudes?

Bills, et al.²⁷ seem to confuse matters further when they referred to an attitude as an evaluation and classify it in terms of traits, interests, and self. They state, "An attitude towards a trait is a feeling as to whether or not a certain trait constitutes a value."²⁸ The statement implies that an attitude is a feeling and a trait is a value.

The whole problem of values should be studied from the point of view of the individual is the emphasis of Woodruff and Divesta.²⁹ This

²⁵Daniel Katz, "The Functional Approach to the Study of Attitudes," The Public Opinion Quarterly, 24 (Summer, 1960), p. 168.

²⁶Ibid.

²⁷Robert E. Bills, Edgar L. Vance, and Orison S. McLean, "An Index of Adjustment and Values," Journal of Consulting Psychology, 15 (1951), pp. 257-261.

²⁸Ibid., p. 258.

²⁹Asahel D. Woodruff and Divesta, "The Relationship Between Values, Concepts, and Attitudes," Educational and Psychological Measurements, 8 (Winter, 1948), pp. 645-659.

should be done because a value is a highly subjective phenomenon. In his later writings, Woodruff defined a value as a "generalized condition of living--an object, a condition, or an activity--which the individual feels has an important effect on his well being."³⁰ According to Woodruff then, a value may lie within the individual (condition) or without the individual (object). Hiller³¹ maintains this division also. To him "intrinsic valuations" refer to qualities that are inseparable for the person, whereas "extrinsic valuations" of individuals are circumscribed and influenced by the particular culture of a given society.

Sociology and Anthropology

Empirical sociology has used six operationally defined variables: (1) personal prestige, (2) occupation, (3) possessions, (4) interaction, (5) class consciousness, and (6) value orientations.³²

Since about 1930, a number of studies of American social structure has been made by sociologists and social anthropologists

³⁰Asahel D. Woodruff, "The Roles of Value in Human Behavior," Journal of Social Psychology, 36 (1952), pp. 97-107.

³¹E. T. Hiller, Social Relations and Structures (New York: Harper and Bros., 1955), p. 47.

³²Joseph A. Kahl, The American Class Structure (New York: Rhinehart and Co., Inc., 1957), p. 184.

using the six variables. In the studies at Jonesville,³³ Elmstown,³⁴ Midwest,³⁵ Yankee City,³⁶ Old City,³⁷ Georgia Town,³⁸ and Plainville³⁹ values have played a large part in describing or even determining the various social classes. Havighurst and Neugarten,⁴⁰ Warner,⁴¹ and Hyman⁴² describe thoroughly the variables, but do little to define a value. One possible reason for the lack of definition might be found in Kahl's

³³W. Lloyd Warner and Associates, Democracy in Jonesville (New York: Harper and Bros., 1949), pp. 12-134.

³⁴August B. Hollingshead, Elmstown's Youth (New York: John Wiley & Sons, Inc., 1949), pp. 237-248.

³⁵W. Lloyd Warner, Marchia Meeker, and Kenneth Eells, Social Class in America (Chicago: Science Research Associates, 1949), pp. 12-34.

³⁶W. Lloyd Warner and Paul Lunt, The Social Life of a Modern Community (New Haven: Yale University Press, 1941).

³⁷Allison Davis, Burleigh B. Gardner, and Mary R. Gardner, Deep South (Chicago: University of Chicago Press, 1941).

³⁸Morell C. Hill and Bevode C. McCall, "Social Stratification in 'Georgia Town'," American Sociological Review, 15, pp. 721-729.

³⁹James West, Plainville, U. S. A. (New York: Columbia University Press, 1945), pp. 15-34.

⁴⁰Fobert J. Havighurst and Bernice L. Neugarten, Society and Education (Boston: Allyn & Bacon, Inc., 1958), pp. 1-34.

⁴¹W. Lloyd Warner, American Life (Chicago: University of Chicago Press, 1953), pp. 50-89.

⁴²Herbert H. Hyman, "The Value Systems of Different Classes," in Reinhart Bendix and S. M. Lippert, editors, Class, Status, and Power (The Free Press of Glencoe, Inc., 1953).

confession: "Of the variables we have dealt with so far, value orientations are the most difficult to point to in the real world."⁴³ To Kahl, values "are convictions shared by people in a given culture or subculture about the things they consider good, important, or beautiful."⁴⁴ He further believes that values tend to become organized into systems and when a group of people share a number of abstract values which have been so organized into such systems, then these should be called value orientations. Such a line of reasoning would explain why various class values or occupational values develop. "People who perform the same activities or who occupy a given prestige level in a stratification system evolve a set of value orientations distinctive to themselves. Consequently, if we measure values, we measure stratification position."⁴⁵

The reasoning above focuses on one side, upon what might be called "social values." Kluckhohn brings in both personal values and social values by defining a value as a "conception, explicit or implicit, distinctive of an individual or characteristic of a group, of the desirable, which influences the selection from available modes, means, and ends of action."⁴⁶

⁴³Joseph A. Kahl, op. cit., p. 8.

⁴⁴Ibid., p. 10.

⁴⁵Ibid.

⁴⁶C. Kluckhohn, "Values and Value Orientations in the Theory of Action," in T. Parsons and E. A. Shils, editors, Toward a General Theory of Action (Cambridge: Harvard University Press, 1952), p. 395.

To follow a consistent philosophy of science, one would need two distinct and precise terms to distinguish between values which are personal and values which are social. Williams approaches the goal by distinguishing between "values" and "norms."

Knowledge and beliefs have to do with what exists or is supposed to exist. Values, on the other hand, concern standards of desirability; they are couched in terms of good or bad, beautiful or ugly, pleasant or unpleasant, appropriate or inappropriate. Norms are rules of conduct; they specify what should or should not be done by various kinds of social actions in various kinds of situations.⁴⁷

Later in his study Williams⁴⁸ discusses shared or cultural values and social values which are shared and regarded as matters of collective welfare. There are four qualities to such a value:

1. a conceptual element, i. e., abstractions drawn from experience
2. affective charged as potential emotional mobilizers
3. a criterion by which goals are chosen but not the concrete goals of action
4. great importance.

Another important distinction which is made is the difference between the evaluation of an object and the standards by which such an evaluation is made. In psychological studies the former would be called attitudes and the latter would be called values.

⁴⁷Robin M. Williams, Jr., American Society (New York: Alfred A. Knopf, 1960), p. 24f.

⁴⁸Ibid., p. 400f.

Social Psychology

In the area where operational definitions are of paramount importance there is still divergence in the definitions of values. There are those who equate values with intellectually held concepts or beliefs.⁴⁹ Murphy, Murphy, and Newcomb define a value as "the maintenance of a set toward the attainment of a goal."⁵⁰ Smith states, "by values, I shall mean a person's implicit or explicit standard of choice, insofar as these are invested with obligation or requiredness."⁵¹ Murphy, writing later, states that values arise from wants and describes a value as "the characteristic of an object which makes it desired."⁵² Writing as a social psychologist, Williams defines values as "important conceptions of desirability."⁵³

Values have been studied at varying points along the age continuum with little positive results. Only a few of the significant

⁴⁹John R. Tisdale, "Psychological Value Theory and Research," Unpublished Ph. D. dissertation, Boston University, 1961, p. 64f.

⁵⁰G. Murphy, Louis B. Murphy, and T. M. Newcomb, Experimental Social Psychology (New York: Harper and Bros., 1937), p. 199.

⁵¹M. B. Smith, "Toward Scientific and Professional Responsibility," American Psychologist, 9 (Sept., 1954), p. 199.

⁵²G. Murphy, Personality: A Biosocial Approach to Origins and Structures (New York: Harper and Bros., 1947), p. 270.

⁵³Robin M. Williams, Jr., "Religion, Value Orientations, and Inter-group Conflict," Journal of Social Issues, 12 (1956), p. 14.

influences in the formation and reorganization of value structures have been isolated. Children are born into a social order where values and the resultant norms are established. There is much uncertainty as to how they acquire the fairly stable value systems of adult life. Horowitz and Horowitz,⁵⁴ Sherif,⁵⁵ and Thompson,⁵⁶ hold that direct personal experiences with intent to learn do not seem to be essential to the acquisition process. They have also found that indoctrination is not always effective.

Mead⁵⁷ has gathered interesting evidence that primitive peoples use ritual to inculcate beliefs and values that often run contrary to fact. That the learning of values seems to be different from the learning of skills and the acquisition of knowledge is supported by Sorenson and Dimock.⁵⁸ They maintain that values develop out of the total experience of the child. Feelings for them are generated or dulled by many factors, but they can be nurtured by clear objectives. Values exist for the

⁵⁴E. L. Horowitz and Ruth E. Horowitz, "Development of Social Attitudes in Children, " Sociometry, 1 (1938), pp. 301-338.

⁵⁵M. Sherif, The Psychology of Social Norms (New York: Harper and Bros., 1936).

⁵⁶G. G. Thompson, "The Effect of Chronological Age on Aesthetic Preference for Rectangles of Different Proportions, " Journal of Exceptional Psychology, 36 (1946), pp. 50-58.

⁵⁷Margaret Mead, "Adolescence in Primitive and Modern Society, " in V. F. Calverton and S. D. Schmalhausen, The New Generation (New York: Macauley, 1930).

⁵⁸Sorenson and Dimock, op. cit., p. 31.

individual on a continuum which precedes from a positive through a neutral area to the strongest negative effect.

Experimental Psychology

Values have been viewed by the experimental psychologists primarily from one standpoint--how perception is influenced by values. Bruner⁵⁹ has given a concise history of the experimental concern with value when he states that value was operationally defined as monetary worth. Ansbacher⁶⁰ studied the effect of the monetary value of postage stamps on a person's perception of "numerousness." Bruner and Goodman⁶¹ using coins studied the same effect of monetary value on the perception of poor or rich children. Osgood, after surveying the literature in the area, concluded, "Needless to say, how value actually does affect perceived size, remains to be worked out."⁶² The one main conclusion that could be drawn from the efforts of the experimental psychologists

⁵⁹Jerome S. Bruner, "Social Psychology and Perception," in Eleanor Maccoby, Theodore M. Newcomb, and Eugene L. Hartley, Readings in Social Psychology, 3rd edition (New York: Holt, Rinehart, and Winston, Inc., 1958), pp. 85-94.

⁶⁰H. Ansbacher, "Perception of Number as Affected by the Monetary Value of the Objects," Archives of Psychology, 215 (1937), p. 289.

⁶¹J. S. Bruner and C. C. Goodman, "Value and Need as Organizing Factors in Perception," Journal of Abnormal and Social Psychology, 42 (1947), pp. 33-44.

⁶²Charles F. Osgood, Method and Theory in Experimental Psychology (New York: Oxford University Press, 1953), p. 292.

would seem to be simply that value does affect perception, but how it does is a moot question.

A more relevant study was made by Postman, Bruner, and McGinnis⁶³ in which personal values were studied for their effect on word recognition. However, values were not defined and the Allport-Vernon Study of Values was used uncritically to determine individual values.

Psychological Value Theory

In surveying the literature concerned with psychological theories of value, many points of agreement among the various writers are apparent. The differences seem to be a matter of emphasis on different variables. In fact, one way the various theorists may be grouped is on the basis of which variable they deem to be critical to the definition of value.

The first group gives values a biological basis and relates them to needs or need satisfactions. Anything has value if it gratifies a need. Maslow's hierarchy of needs,⁶⁴ Murphy's Biosocial Theory,⁶⁵ which holds that values are the products of canalized and conditioned tissue

⁶³L. Postman, J. S. Bruner, and E. McGinnis, "Personal Values as Selective Factors in Perception," Journal of Abnormal and Social Psychology, 83 (1948), pp. 148-153.

⁶⁴A. H. Maslow, Motivation and Personality (New York: Harper and Bros., 1954).

⁶⁵G. Murphy, op. cit., p. 270.

tensions, and Goldstein's Organismic Theory⁶⁶ illustrate this emphasis. The position can be epitomized by Goldstein's statement, "The affect of values is derived from association with need gratification or deprivation with emotional arousal."⁶⁷

While granting the biological basis of values, Allport⁶⁸ and Spranger⁶⁹ stress the point that a value has the quality of being a pre-disposition. Thus, to them, values operate consistently prior to behavior and are the source of motivation. A value could be said to be functionally autonomous.

Another group of psychologists, especially those who are interested in the field of education, place the emphasis upon the variable of the problem situation as the key to value learning. This position can be traced back to the influence of John Dewey^{70, 71} who took the position that values arise in the individual only when problem

⁶⁶K. Goldstein, Human Nature in the Light of Psychopathology (Cambridge: Harvard University Press, 1940).

⁶⁷Ibid., p. 98.

⁶⁸Gordon W. Allport, op. cit., p. 201f.

⁶⁹E. Spranger, Types of Men (New York: Stechert-Hafner, Inc., 1930).

⁷⁰John Dewey, Interest and Effort in Education (Boston: Houghton Mifflin Co., 1913), cf. pp. 21-42.

⁷¹John Dewey, Experience and Education (New York: The MacMillan Co., 1938), cf. p. 5f.

situations demand a behavioral choice. There is an equal emphasis in this group upon the nature of values as always being in process.⁷²

The gestaltists, like Koffka,⁷³ and field theorists, like Lewin⁷⁴ stress the situational relationships in the development of values, which is similar to Dewey's "value in process" emphasis, but still carries the idea further by giving dimensions to values and not just locus or degree.

Floyd Allport,⁷⁵ after discussing the confusion that surrounds studies of directive-state studies of value, endeavors to clarify the psychological concept of value by attributing distinct meanings to the term. "End-value" may be applied when an object completely satisfies a need. The measure of value here depends upon the strength or intensity of the particular need that is satisfied. "Means-value" should be used when the reference is not to the strength of a need to be fully satisfied, but to the degree in which the object will satisfy a standard or constant need. This emphasis is upon the "need-fulfilling potentiality," or the "degree of positive relevance." The latter concept seems

⁷²Jerome Bowman Long, "Dewey and Pragmatism: Towards a True Conception of Values in Process." Unpublished Ph. D. dissertation, Forday University, 1960.

⁷³K. Koffka, Principles of Gestalt Psychology (New York: Harcourt, 1935).

⁷⁴K. Lewin, Field Theory in Social Science (New York: Harper and Bros., 1951).

⁷⁵Floyd H. Allport, Theories of Perception and the Concept of Structure (New York: John Wiley & Sons, Inc., 1955), pp. 350-361.

to reflect some type of cognitive set rather than the influence of a "motive" or "need" as does the former concept.

Basic Theoretical Formulation

In the survey of the literature above, one finds much confusion in the meanings of the various key terms and different concepts represented by the same term. There is also disagreement among definitions. An adequate philosophy of science demands that a term should have a specific, single meaning which is distinct from the meaning of any other term, and further, that such a term should have a physical referent. While psychology may never be able to do the latter, dealing as it does with many abstract concepts, it can certainly do the former.

It was felt that one consistent theoretical formulation composed of terms with such specific, distinct meanings was necessary to the study. Because no other such formulation was found in the literature, an attempt was made to develop one.

After exploring various possible approaches, it was decided that returning to the etymological development of the key terms seemed to offer most promise. The definitions and root meanings of the terms listed below were taken from Webster's New Collegiate Dictionary.⁷⁶

1. Attitude is a derivation from the Latin aptus, "suited." The root idea was a posture or position assumed or

⁷⁶Webster's New Collegiate Dictionary (Springfield, Mass.: G. & C. Merriam Co., 1961).

studied to serve a purpose. As in the theater it meant a position or bearing which indicated action, feeling or mood, later it was expanded to include the feeling or mood itself.

2. Belief was derived from the Anglo-Saxon "geleafa" through Middle English be and leve. The root idea is "acceptance." Belief then is acceptance of something as trustworthy or real. It was further expanded to include the idea of "conviction."
3. Interest was derived from the Latin inter, "between" and esse, "to be." Interesse meant "to be between, thus to be different or important." In Middle Latin the meaning was confined to usury or compensation. The root idea of the noun is that of investing a share of one's attention in an object or concern.
4. Need comes from the Anglo-Saxon nēad. The basic idea is that of "lack." Thus something may be necessary without it being a need when used in this sense. It implies urgency.
5. Opinion comes from Latin opinari, "to think." The basic idea is a "belief" not based on certainty or knowledge, but what seems to be probable.
6. Value comes from the Latin valere, "to be strong, to be worth." The dictionary lists 13 definitions for this word, but the root idea is that of estimated or assessed worth, even to the extent of precise signification of it.

With the above survey of psychological value theory literature as background and using these etymological distinctions as a starting point the following theoretical formulation was developed. Rogerian theory served as a frame of reference.

1. The Self. Through interaction with the environment, the individual differentiates a portion of his awareness as an awareness of being. This awareness of being is elaborated into a concept of Self. The Self has one basic operating principal--to maintain and enhance the

Self. Thus, the Self engages in an evaluating process. Those qualities that are seen as consistent with the maintenance and enhancement of the Self are invested with value. Following this line of reasoning, the Self Concept becomes the root of all personal values.

2. Values. Values are then abstraction from the self concept. They are psychological in nature, which is the point of distinction between needs and values. Needs have a physiological basis. In the formulation, one needs food; he does not value it. Some physical needs may later be invested with psychological value. Sex, for example, is first a need with a physiological basis, but in the case of a Don Juan syndrome, the need has been invested with psychological value in that a proliferation of sexual conquests becomes necessary to the maintenance of the individual's self concept. On the other hand, one may value honesty or achievement, but he does not need it. Indeed, many live all their lives without either.

Values are abstract, lie within the individual, and are rooted in the self concept. How important a value may be to the maintenance or enhancement of the self concept determines not only its relative strength but also the amount of affect it is capable of generating.

The values of an individual may lie on a continuum from unconscious and vague to conscious and clear. There is also a continuum of the degree of organization from isolated and haphazard to complex and organized. Only the latter can be called a value system and value systems may be organized into a philosophy of life.

3. Attitudes. Whereas values are abstract, attitudes are the effective expression of a value toward a specific object or activity. There are only two basic attitudes which may be expressed in contrasting terms as like-dislike, love-hate, for-against, and any number of other types of polarity. Though there are cognitive elements in an attitude, the affective element is predominant. An example is racial prejudice. The basic value is self-importance or superiority abstracted from the self concept. Through the cultural environment that presents a ready made attitude that will express, distortedly of course, the value, the attitude of contempt is produced toward the minority group. The affective predominance distorts cognitive elements that may be present in the attitude.

An attitude may be very specific, directed toward a single object, or very general, directed toward a broad class of objects.

4. Interests, Opinions, and Beliefs. These three concepts are conceived as lying on a cognitive continuum. Interest is the investment of a share of attention in an object because said object is subceived as possibly impinging upon some value held by the individual. If the object is perceived as being neutral to the value attention is withdrawn and interest is lost. If, however, the object is perceived as having a possible positive or negative effect upon that value interest is maintained and an opinion is formed upon the evidence available. An opinion is a tentative belief or probability statement. A belief is formed when the individual feels he has enough evidence to accept the conclusion as true.

The relationship between attitudes and interests, opinions, and beliefs is one of two-way interaction. The cognitive elements may be marshalled or even distorted to support an attitude because of the affect invested in it. On the other hand, cognitive elements that are congruent with underlying values may participate in the molding or changing of an attitude. The interrelations of attitudes, values, beliefs, and other variables of this formulation are schematized in Figure 1.1.

Within the framework of the theoretical development it was theorized that:

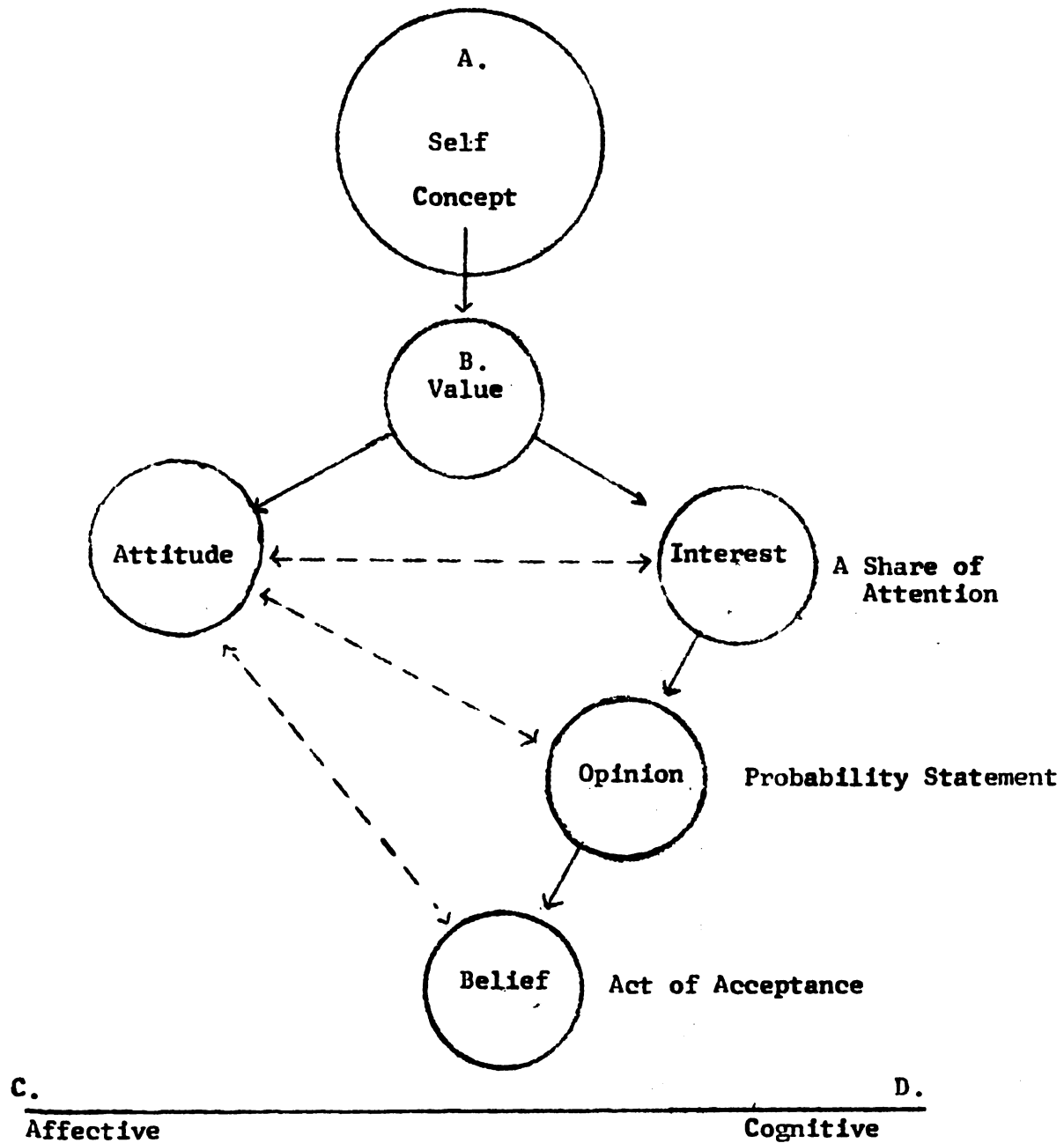
1. Teachers had a common core of values with regard to the ideal student.
2. An instrument composed of attitudinal statements could be developed to measure underlying values.

Overview

In chapter two the design of the study will be presented. The process of selecting the values to be studied, the writing of the statements, the testing of the approach to the measurement of values, and the development of the instrument, The Ideal-Student Values Inventory, will be described in detail in chapter three. Chapter four will present the analysis of the data of the comparison of elementary and secondary teachers' values as revealed by their concept of the ideal student. Conclusions, discussion, and implications for further research will follow in chapter five.

Figure 1.1

The Relationship Between Values and Other Variables



- A. Basic Value: To maintain and enhance the Self
- B. An abstraction from A.
- C. D. A continuum.

CHAPTER II

DESIGN OF THE STUDY

The study was designed to develop and test an instrument for measuring a limited number of values held by teachers about the nature of the ideal student. In so doing, an attempt was made to determine whether or not teachers held a common core of values by comparing elementary and secondary teachers.

Assumptions

To begin the study certain values had to be selected for incorporation in the instrument and to serve as the basis of the statements used. It was decided that teachers themselves could be of most help in making the appropriate selection. However, this approach called for three underlying assumptions:

1. Teachers, when asked to describe what the ideal student is like, will provide the basic constructs of teacher value-orientation.
2. The teacher statements can then be summarized under a few generic headings.
3. A pool of items describing the ideal student can be generated from the generic heading formulated above.

The implementation of these assumptions is described fully in the next chapter which is concerned with the development of the instrument.

Hypotheses

Following the assumptions above four hypotheses were generated which related to validity, reliability, and population differences.

- Hypothesis I: Judges, making independent decisions, will agree in their classification of the items with the original headings developed following assumption three above.
- Hypothesis II: The items for which there is 100 per cent agreement on the part of the judges will, when formed into total and sub-scales, evidence high internal consistency, i. e., item, sub-scale, and total scale reliabilities will be high.
- Sub-hypothesis II: The sub-scales will evidence no interdependence.
- Hypothesis III: Elementary and secondary teachers will respond similarly to the value laden statements, the sub-scales, and the total scale for both the validation and the cross-validation tests.

In subsequent chapters the hypotheses were stated in Null form and tested by appropriate statistical analyses.

The Sample

The population of the study consisted of teachers employed in Michigan public schools. The sample was arbitrarily selected with four factors under consideration:

1. The availability of teachers who were willing to cooperate voluntarily with this type of research
2. The requirements of at least one year of teaching experience in public schools

3. An approximately equal division of elementary and secondary levels of teaching
4. To secure as wide a geographical range and as large a variety of levels taught as possible.

The validation sample was selected from Education extension courses offered by Michigan State University at Grand Rapids and Oakland University. The cross-validation sample was selected from summer school education courses offered on the campus of Michigan State University during the summer of 1963. The teachers who volunteered to take the test were surveyed to determine the location of the schools in which they taught. It was found that over 150 different schools were represented which were scattered over the entire southern half of the state of Michigan. Thus, while the sample was not random, the range of dispersion was wide.

Although 534 teachers took the instrument, 114 were discarded because of omissions, errors in response, and improper identification. Twenty useable high school teachers' answer sheets were randomly discarded in order to secure equal samples for analysis purposes. Thus the sample for the study consisted of 100 elementary and 100 secondary teachers for the validation group and a sample of identical magnitude was chosen to cross-validate the findings.

A sample selected from education courses offered by a university could be highly homogeneous in age or teaching experience. The distribution of the number of years of teaching experience of the sample as presented in Table 2.1 tends to dispel suspicion of this biasing factor.

Table 2. 1

Years of Teaching Experience Distribution

Sample	Years of Teaching				
	1	2-5	6-10	11-19	20-40
Elementary Validation	17	43	18	12	10
Elementary Cross-Validation	27	43	16	9	5
Secondary Validation	12	40	22	19	7
Secondary Cross-Validation	19	47	17	12	5

It was intended to analyze the results in relation to the distribution of age and sex. However, feminine resistance to acknowledging age made the former analysis impossible while the small proportion of males made the latter analysis impractical. High school subjects taught were not solicited. Elementary grades taught were evenly distributed between grades one through three and grades four through six. For the validation sample the distribution of teachers between the lower and upper elementary grades was 43 for grades one through three and 57 for grades four through six, while the distribution for the cross-validation sample was 48 and 52 respectively. There was no significant difference between the distributions.

Statistical Analysis

Three major types of analyses were conducted on the data relating to the three research hypotheses given above:

1. Estimates of inter-judge agreement
2. Estimates of item, sub-scale, and total scale reliabilities
3. Estimates of population differences.

Inter-judge Analysis

A list describing the eight values briefly and a copy of 200 statements that were written to express specific attitudes which were believed to reflect or relate to one of the eight values were given to four judges. (The statements are reproduced in Appendix A.) They were asked to classify each statement, whether negative or positive, as belonging to one of the value categories which had been deduced from the personal interviews with the teachers. They were also given the opportunity to reject any statements they felt did not relate to any of the stated value categories. Pearson product moment correlation coefficients were computed to determine the degree of correlation between the classification of each judge and the test as it was originally constructed. Although all four of the judges showed significant correlation with the criterion, it was later decided to retain only the items that the judges agreed upon 100 per cent in order to secure the maximum validity possible.

Internal Consistency Analysis

Each item of the instrument was analyzed by the chi square model for an estimate of item discrimination. Item Responses--agree equals 1 and disagree equals 0--of the lowest 27 per cent of the total scores and the responses of the highest 27 per cent of the total scores were entered in two-by-two contingency tables. Chi square values were calculated on a high speed computer (MYSTIC) at Michigan State University by punching the observed frequencies on computer tape. The K 6M program was used for the analysis.

Alpha was set at the .20 level for item validation and the .10 level for the significant items for cross-validation. The more stringent cross-validation significance level was used to minimize rejection of the Null Hypothesis when it should have been accepted (Type I error). Items that did not discriminate significantly were discarded.

Internal consistency reliability estimates for both sub-scales and total scale were obtained by Hoyt's analysis of variance method.⁷⁷

Percentage of agreement with each item was reported and used to determine the index of difficulty for each item.

To assess the independence of the sub-scales a correlation matrix was computed. The K11-M(C) program of the computer was

⁷⁷Cyril H. Hoyt, "Test Reliability Estimated by Analysis of Variance," Psychometrika, 6 (1941), pp. 153-160.

used for this analysis. Any sub-scale that showed significant correlation with any other scale or scales was discarded.

Population Differences Analysis

A chi square value was calculated for each item as a test of difference between elementary and secondary teachers' responses. This procedure was repeated for the cross-validation sample. The same program was used for item discrimination analysis.

The sub-scale and total scores for elementary and secondary teachers for both the validation and cross-validation samples were analyzed by a "t" test for significant differences. A significance level of .05 was predetermined for the rejection of the Null Hypothesis.

Data Collection Procedure

Professors of education at Michigan State University were contacted and permission was secured to ask the members of their classes to volunteer as subjects for the study. The classes selected were education extension courses offered at Oakland University, near Pontiac, Michigan, and at Grand Rapids Junior College, at Grand Rapids, Michigan during the Spring term of 1963. The cross-validation sample was composed of teachers in education courses offered on the main campus of Michigan State University during the summer of 1963.

Each professor at the beginning of each class explained briefly the nature and purpose of the study. Instructions for the instrument

itself were standardized by having the same person read the written instructions to each class. Test forms and answer sheets were placed on each desk before the start of class to minimize confusion. The voluntary nature of the study was emphasized, but there were only three teachers out of all the classes who refused to cooperate. Answer sheets and test forms were collected simultaneously at the end of each class period. The average time needed to complete the test was 45 minutes.

Summary

The hypotheses of the study were tested in a design which involved developing an experimental instrument, The Ideal-Student Values Inventory. They were developed operationally upon the basis of three underlying assumptions: (1) teachers when asked to describe what the ideal student is like will provide the basic constructs of teacher value-orientation, (2) teacher statements can then be summarized under a few generic headings, and (3) from the generic headings a pool of items can be generated which describe the ideal student.

The hypotheses tested related to (1) inter-judge agreement with the original classification of the items with the eight value categories, (2) high item, sub-scale, and total scale reliabilities, (3) no overlapping or interdependence of the sub-scales, and (4) response similarity of elementary and secondary teachers on the items, sub-scales and total scales for both validation and cross-validation samples.

The sample consisted of 100 elementary teachers and 100 secondary teachers from Michigan public schools. A second sample of identical magnitude was chosen to cross-validate the findings.

Statistical analysis involved inter-judge correlation coefficients, chi squares to determine items which discriminated, Hoyt's analysis of variance technique to determine internal consistency as an estimate of test reliability, correlation coefficients to estimate sub-scale independence, chi squares to determine item by item cross-validation and "t" tests to estimate differences in populations--elementary and secondary teachers--on the sub-scales and total scores.

CHAPTER III

DEVELOPMENT OF THE INSTRUMENT

Following the design of the study set forth in the preceding chapter, the initial step was to determine the theoretical approach to the development and construction of the instrument. A distinction made by Torgerson offered such an approach. He defined two classifications of scientific disciplines according to the following criteria:

1. the degree to which theoretical procedures or explanations are used, and
2. the degree to which correlational procedures or explanations are used.⁷⁸

The distinction that is made is between a science which largely describes the degree of relationship among directly observable variables and a science which attempts to derive, account for, or explain these relationships from principles not immediately given, but which lie beyond straight empirical knowledge.

The instrument developed for the study must evolve out of the second scientific approach described above. Values clearly lie beyond empirical knowledge, but attitudes toward specific objects or behaviors can be made observable data. Thus, as in all social sciences, the

⁷⁸Warren S. Torgerson, Theory and Methods of Scaling (New York: John Wiley and Sons, Inc., 1958), pp. 2-8.

beginning point must be observable data--in this case specific attitudes--and then the presumed relationship between the observable data and theoretical constructs is studied. Rules of correspondence must be sought which relate to the observable data. Such rules of correspondence in turn offer operational definitions.

According to Bergmann and Spence,⁷⁹ mentalistic terms, as values and attitudes, are not meaningless as behaviorism maintains. If they are given operational definitions they may be legitimately used. It was held that for the study attitudes do give epistemic definitions to values. Thus the initial approach to the development of the instrument was to select certain values of primary importance to the field of teaching and to write statements that related to the values by revealing specific attitudes which would at the same time give operational definitions to them.

Selection of Values

The next step was to determine which values were basic to the field of education and to teachers personally, in particular. Thus, teachers themselves would be of most help in selecting the values to be incorporated in the instrument and which would serve as the source of the attitude revealing statements to be written.

⁷⁹Gustav Bergmann and Kenneth W. Spence, "The Logic of Psychophysical Measurement," Readings in the Philosophy of Science, Herbert Feigl and May Bradbeck, editors (New York: Appleton-Crafts, Inc., 1953), pp. 103-123.

Time was taken to interview informally 24 teachers who had had varying experience and background in public school teaching. During the interview each teacher was asked what she thought made a student a good one and what she personally disliked in the attitudes, behavior, and personality of various students. This approach would accomplish two things: first, it would make the teacher feel more at ease and talk more freely about an area that could have been sensitive; second, the teacher would reveal her own values as she described the ideal student. The values that the teacher projects clearly in the classroom are the most important ones for the study.

During the interviews, notes were taken openly, listing various values as they were discussed. Even in this initial exploratory stage the impression of a high degree of agreement among teachers was strong. Ten value areas were touched upon, in one way or another, by every teacher interviewed. They were: achievement, orderliness, perseverance, the control of aggression, rationality and the control of emotions in general, frugality, conformity or obedience, care of property, self-reliance or taking the responsibility for oneself, and originality or showing creativeness.

Survey of the Literature

All psychological and sociological studies of attitudes and values published since 1930 were surveyed for any that would relate to the ten values listed above. The survey of the literature has been

reviewed in chapter one. No psychological studies relating to the values were found to be relevant to the study. However, every psychological test of attitudes was inspected. Test manuals were studied to determine the method of development and the theoretical basis, if any, underlying the test. While some tests had a good empirical development, few had any logical theoretical framework for the items used. Every item was analyzed for style, clearness, and the underlying value to which it was related.

Sociological studies, because of the descriptive nature of all of them, offered little that was of value for the study. One interesting observation was made. All of the ten values mentioned above, with the exception of creativity, were described consistently as "middle-class values." Except for consensus of opinion, there was no objective proof or experimental results to substantiate this claim.

Test of Procedure Validation

The assumption underlying the development of the instrument was that statements revealing specific attitudes could be written which would relate to a basic value. It was decided to test this assumption before proceeding further.

A single, important value consistently referred to by the teachers who were interviewed was arbitrarily selected--achievement. It was reasoned that the achievement value would reveal itself in statements that expressed attitudes toward specific examples of achieving,

succeeding, or doing well. It was also assumed that the importance or strength of the value for the individual would be indicated to some degree by the number and kind of specific situations in which achieving was important. Therefore, the writing of the statements was all important and any factors which could have a distorting or a biasing effect upon them should be as carefully guarded against as possible.

Several factors which could exert such effects have been noted and studied. The social desirability factor and the related problem of faking have long been recognized to be distorting influences in test-taking situations. Metfessel,⁸⁰ Olsen,⁸¹ and Spencer⁸² studied the effects of anonymity on responses to self-rating situations and found that the requirement of signing one's name has a definite effect on scores.

Frenkel-Brunswick⁸³ investigated tendencies to self-deception in rating oneself, finding in some cases marked negative relationship between self-judgments and the evaluation of others. The temptation to slant or falsify would be stronger in the case of someone who is

⁸⁰M. Metfessel, "Personality Factors in Motion Picture Writing," Journal of Social and Abnormal Psychology, 30 (1935), pp. 333-347.

⁸¹W. C. Olsen, "The Waiver of Signatures in Personal Reports," Journal of Applied Psychology, 20 (1936), pp. 442-450.

⁸²D. Spencer, "Frankness of Subjects on Personality Measures," Journal of Educational Psychology, 29 (1938), pp. 26-35.

⁸³F. Frenkel-Brunswick, "Mechanisms of Self-Deception," Journal of Social Psychology, 10 (1930), pp. 409-420.

constantly being evaluated and open to public criticism as are teachers in a public school system. A group of teachers in a public school system studied by Hendrickson⁸⁴ earned significantly more stable, dominant, extroverted, and self-sufficient scores on the Bernreuter scales when instructed to take the tests as though they were applying for a position than when under more neutral instructions. "We must constantly remember that the response of a subject may not represent exactly what the question implies in its most obvious meaning for they respond as they think they are, or would like to be, and as they would like others to think them to be."⁸⁵

At least four solutions for controlling this problem--self-deception, wishful thinking, social desirability influence, and deliberate falsification--have been suggested:

1. Special exhortations to frankness and objectivity have been emphasized by Meehl and Hathaway.⁸⁶ Such an approach is simply an attempt to make frankness socially desirable, but it would have no effect on self-deception.

⁸⁴G. Hendrickson, "Attitudes and Interests of Teachers and Prospective Teachers," (paper read before section Q AAAS, Atlantic City, December, 1932).

⁸⁵J. P. Guilford and R. D. Guilford, "Personality Factors S, E, and M and Their Measurement," Journal of Psychology, 2 (1936), p. 118.

⁸⁶P. E. Meehl and S. R. Hathaway, "The K Factor as a Suppressor Variable in the MMPI," Journal of Applied Psychology, 30 (1946), p. 527.

2. Some test constructors have attempted to incorporate and use the socially desirable response. The Humm-Wadsworth Temperament Scale^{87, 88} was an example of this approach, which never became popular.

3. The development and use of a Fake Scale was another method used to detect deliberate biasing of the results. Such scales were empirically derived. Rush's scale⁸⁹ for the Bernreuter and the F scale for the MMPI are examples.

4. To disguise the measure in order that it does not appear as a self-rating instrument is perhaps the most popular method used with personality tests. Although validity may be lost with too gross a disguise, this method could eliminate the bias of self-deception most effectively of all the methods.

For the process validation study, the last method was selected and coupled with anonymity in the attempt to eliminate the distorting potential of these factors. The 25 items were written as though a student were making them. The teachers were asked to respond to the

⁸⁷D. G. Humm and K. A. Humm, "Validity of the Humm-Wadsworth Temperament Scale: With Consideration of the Effects of Subject Response-Bias," Journal of Psychology, 18 (1944), pp. 55-64.

⁸⁸D. G. Humm and G. W. Wadsworth, "The Humm-Wadsworth Temperament Scale," American Journal of Psychiatry, 91 (1935), pp. 163-200.

⁸⁹F. L. Rush, "A Technique for Detecting Attempts to Fake Performance on a Self-Inventory Type Personality Test." In Quinn McNemar and M. A. Merrill, Studies in Personality, (New York: McGraw-Hill, 1942), pp. 229-234.

statements as they thought the ideal student would respond. Anonymity would remove the pressure of social desirability to a large extent, at least, and responding as the ideal student would help nullify the distortion of self-deception because the teacher, regardless of what he thought he believed, would tend to project into the testing situation the same values he projects in the classroom.

Bordin⁹⁰ indicated that one factor determining the profile of some interest tests was the degree of acceptance of an occupational or personality stereotype as a self-description. The self-description was disguised in this study and the fact that the ideal student might be a stereotype in many teachers' minds would have no biasing effect because the stereotype would still reveal the underlying values held by the teacher. In fact, if teachers hold a common core of values as is hypothesized in the study, then the ideal student would definitely tend to be a stereotype.

With the frame of reference determined by the approach decided on above, 25 items were written which were statements a student would make. They indicated the attitude of the student toward achieving in various specific situations. No attempt was made to determine reliability or validity at this early stage. This single achievement scale is reproduced in Appendix A.

⁹⁰E. S. Bordin, "A Theory of Vocational Interests As Dynamic Phenomena," Educational and Psychological Measurement, 3 (1943), p. 57.

The pilot sample was composed of 48 school teachers from two randomly selected public schools in Lansing, Michigan. Permission was secured from the principals to ask the teachers to participate in the study. The scale was given to and taken home by each teacher in the two schools, 92 teachers in all. Only 52 per cent or 48 were returned.

There were four possible responses to each statement: always agree, usually agree, seldom agree, and never agree. The four categories were selected in order to force a choice that indicated definite agreement or disagreement. The distinction allowed a dichotomous scoring system, i. e., in analyzing the results, the four possible responses were divided into two categories of agree or disagree. Whether negative or positive statements, a response that favored achievement was scored 1, while a response that did not favor achievement was given a score of 0.

The mean score was 18.25 with a standard deviation of .975. The high mean score and small standard deviation indicated a close and high degree of agreement among the teachers who were tested.⁹¹

Although the abstract, and values were held to be abstract, cannot be measured, properties can. If, as was assumed, attitudes

⁹¹ When the items were related to so-called class values, as defined by the sociologists, the teachers tested to a very high degree, held middle class values. When the scores were analyzed for significant differences a chi square which was significant beyond chance at the .001 level of confidence was obtained.

were properties of values, then attitudes should be measurable. The assumption would then be that the level of attitude measured would indicate the extent or degree to which an individual held the underlying value.

However, the simplest method of measurement is confronted by a serious problem. Even physical properties are not characterized by specific dimensional symbols which are independent of the processes by which they are measured.⁹² In attempting to measure psychological properties the problem is exacerbated. Therefore, a simple measurement procedure which would show degree or levels of the degree to which an attitude was held would be sufficient to offer some content validation for this step of the study. A simple scaling method was adopted.

If the various items indicated different degrees of intensity with which the underlying value was held, then some of the items should scale. Items 2, 7, 12, 15, and 24 were randomly selected. An attempt was made to scale them by the Guttman⁹³ method. The items scaled with a coefficient of reproducibility of .97. The scale is reproduced in Table 3.1.

⁹²G. W. Scott Blair, Measurements of Mind and Matter, (London: Dennis Dobson, Ltd., 1950), pp. 50-52.

⁹³Allen L. Edwards, Techniques of Attitude Scale Construction (New York: Appleton Century Crofts, Inc., 1957), pp. 172-184.

Table 3.1

Guttman Scale of Five Achievement Items
N = 78

Subject	Item 2		7		24		15		12	
	1	0	1	0	1	0	1	0	1	0
1.	x		x		x		x		x	
2.	x		x		x		x		x	
3.	x		x		x		x		x	
4.	x		x		x		x		x	
5.	x		x		x			x	x	
6.	x		x		x		x			x
7.	x		x		x			x	x	
8.	x		x		x		x			x
9.	x		x		x			x	x	
10.	x		x		x		x			x
11.	x		x		x		x			x
12.	x		x		x		x			x
13.	x			x	x		x			x
14.	x		x		x			x	x	
15.	x		x		x			x		x
16.	x		x		x			x		x
17.	x		x		x			x		x
18.	x		x		x			x		x
19.	x		x		x			x		x
20.	x		x		x			x		x
21.	x		x		x			x		x
22.	x		x		x			x		x
23.	x		x		x			x		x
24.	x		x		x			x		x
25.	x		x		x			x		x
26.	x		x		x			x		x
27.	x		x		x			x		x
28.	x		x		x			x		x
29.	x		x		x			x		x
30.	x		x		x			x		x
31.	x		x		x			x	x	
32.	x		x			x		x		x
33.	x		x			x		x		x
34.	x		x			x		x		x
35.	x		x			x		x		x
36.	x			x	x			x	x	
37.	x			x		x	x		x	

Table 3.1--Continued

Guttman Scale of Five Achievement Items
N = 78

Subject	Item 2		7		24		15		12	
	1	0	1	0	1	0	1	0	1	0
38.	x			x		x		x		x
39.	x			x		x		x		x
40.	x			x		x		x		x
41.	x			x		x		x		x
42.	x			x		x		x		x
43.	x			x		x		x		x
44.		x		x		x	x			x
45.		x		x		x		x		x
46.		x		x		x		x		x
47.		x		x		x		x		x
48.		x		x		x		x		x
f	43	5	34	14	32	16	12	36	11	37
p & q	.89	.11	.71	.29	.67	.32	.25	.75	.23	.77
e	0	0	0	1	1	0	2	3	5	1
Sum of e	13									
Sum of r _s	480									
Proportion	.03									
Coefficient of reproducibility	.97									

Development of the Full Test

With the demonstration of the possibility of content validation the same procedure used above was used in developing the full test. Ten values were chosen upon the basis of the interviews with teachers because they seemed to be possible core values. The ten values were

achievement, orderliness, perseverance, control of aggression, rationality, self-reliance or autonomy, obedience or dependence, frugality, care of property, and creativity. A total of 250 items was written with 25 items relating to each value.

The statements were submitted to 40 teachers who were asked to respond, as in the content validation study, as they thought the ideal student would. Would the ideal student always agree, usually agree, seldom agree, or never agree with each statement. They were also asked to mark items that were unclear, poorly worded, or confusing in their opinion. Immediately after testing, approximately half of the teachers were interviewed to determine their reasoning about the rejected items. After questionable items were rejected, an even 200 items were retained. (See Appendix A.)

As a result of the screening of items above and because of the difficulty of writing statements that referred uniquely to only one value, it was necessary to collapse three of the ten values named above-- self-reliance or autonomy, obedience or dependence, and creativity. The three values seemed highly related and were incorporated into a new, broader category, the locus of responsibility, which seemed to be a single unit with no overlap and which had relevance for the teachers interviewed. The final values used as the basic framework for the full test and a brief description of the kind of attitude statements which were written to relate to them are given below.

1. Achievement

Statements relate to the need to achieve, do well, do one's best, to succeed; willingness to work hard; high value on learning, education, college; the willingness to take responsibility; to sacrifice now for future success.

2. Orderliness

Statements relate to the need to organize things, preferring well organized affairs, planning difficult things ahead of time as parties, tasks, work; need for cleanliness, neatness, promptness; making and keeping a schedule.

3. Perseverance

Statements relate to the need to finish what is started, not to stop a task, home work, reading until one is finished; not to give up; not liking interruptions; hard to change mind or plans once started.

4. Frugality

Statements relate to the need to save, keep things as time, food, books, money; dislike of waste or throwing things away.

5. Control of Aggression

Statements refer specifically to the control of versus the expression of hostility or aggression in any form of behavior; not to show anger; not to anger anyone else; not to fight, argue, get even, criticize; not to hurt or make fun of anyone; not to gossip, be sarcastic, talk back, tattletale, swear; to hide dislike, to have good manners, be agreeable and pleasant at all times, to get along well with people.

6. Rationality

Statements relate to the emphasis upon rational versus emotional behavior, such as the need to stop and think, consider every angle, never act on impulse, to be logical and put reason above feelings, to distrust and control one's feelings.

7. Respect for Property

Statements relate to the respect for the property of others, including public property; to care for and protect property.

8. Locus of Responsibility

The value has to do with whether the locus of responsibility is in one's self or in others. The statements relate to one of the five sub-processes listed under A and B below.

A. Self

1. Initiating
2. Structuring
3. Directing
4. Supporting
5. Evaluating

B. Other

1. Initiating
2. Structuring
3. Directing
4. Supporting
5. Evaluating

Statements relating to A deal with (1) figuring things out for oneself, making up one's own mind, decisions, and doing things one's own way; (2) wide exposure to new ideas, free expression of ideas, liking for controversy, deep discussions; (3) liking for questioning and testing things for oneself; (4) being contemplative, interest directed, and reading widely and diversely.

Statements relating to B deal with (1) depending upon others for suggestion and advice, complying, conforming, needing specific directions, relying upon the opinions, leadership of others, having trouble making decisions; (2) succorance needs for attention, affection, and encouragement; (3) favoring indoctrination, censoring, protecting students; (4) favoring fact and knowledge centered learning with authoritarian type teaching.

In analyzing the results of the content validation study a problem appeared in connection with a possible biasing effect of a response set.

The responses to negative statements were consistently much lower than to the same idea expressed in a positive statement. According to

Cronbach,^{94, 95} who has reviewed several response sets that influence a test-taker's behavior, the variance generated by a response set is regarded as undesirable because it contributes only error variance and cannot be used to increase the usefulness of a test. Fricke,⁹⁶ in surveying the responses scored in most personality scales, discovered that the significant responses are predominantly in one direction. In an attempt to minimize the effect of a positive-response set two steps were taken. Forty items, written on cards, were randomly selected and rewritten as negative statements. The order of appearance of the items on the test was also randomly determined.

Inter-judge Agreement Analysis

According to Bergmann and Spence,⁹⁷ the social scientist uses a human yardstick. In studying his subjects he uses a different language. It becomes necessary to distinguish between the use of symbolic responses of human subjects and the use of symbolic responses of human judges. A scientist labels a given fragment of behavior aggressive if

⁹⁴L. J. Cronbach, "Response Sets and Test Validity," Educational and Psychological Measurement, 6 (1946), pp. 475-494.

⁹⁵L. J. Cronbach, "Further Evidence on Response Sets and Test Design," Educational and Psychological Measurements, 10 (1950), pp. 3-31.

⁹⁶B. G. Fricke, "Subtle and Obvious Test Items and Response Sets," Journal of Consulting Psychology, 21 (1957), pp. 250-252.

⁹⁷Bergman and Spence, op. cit., pp. 103-123.

eight out of ten judges apply the word to the behavior. In so doing, the scientist is using the human yardstick in the introduction of the term aggressive.

Such an approach was the nearest that would be possible to the establishment of any validity in this type of study. If values are abstract, then there would be no objective criterion with which to correlate test results. However, if there were a high degree of inter-judge agreement as to which value each statement reflected, then at least the construct validity would have some support.

The Analysis

The following Null Hypothesis was tested by calculating a correlation coefficient for each judge, an inter-correlation matrix, and a multiple correlation coefficient.

Null Hypothesis: There is no relationship between the classification of independent judges and the classification of the instrument as constructed.

Four judges, three counseling psychologists with more than five years of professional experience and one elementary teacher, were asked to assign each statement to one of the value categories. A product moment correlation coefficient was calculated using the test as originally constructed as the criterion. All the individual coefficients were high except judge four and it reached an acceptable level of r equals .80. The coefficients for each judge are presented in Table 3.2.

Table 3.2

Inter-judge Correlation Coefficients

Judge 1 (Counselor)-----	r. 998
Judge 2 (Counselor)-----	r. 998
Judge 3 (Counselor)-----	r. 999
Judge 4 (Teacher)-----	r. 799

Table 3.3

Correlation Matrix of Inter-judge Agreement
of Statement-Value Assignment

Criterion		J ₁	J ₂	J ₃	J ₄
Criterion	1	.99*	.99*	.99*	.79*
Judge 1		1	.99*	.99*	.75*
Judge 2			1	.99*	.74*
Judge 3				1	.77*
Judge 4					1

*Significant above the .01 level

An inter-correlation matrix was calculated and is presented in Table 3.3. All coefficients were at or near an acceptable level with six of the ten coefficients equaling .99. Using the Doolittle method,⁹⁸ a multiple correlation coefficient of the four judges' ratings against the original classification was also calculated: $r_{1.2345}$ equals .99. In all cases the Null Hypothesis was rejected. However, in the interest of securing the maximum validity possible all items that did not have 100 per cent inter-judge agreement were dropped. The instrument, now

⁹⁸Quinn McNemar, Psychological Statistics (New York: John Wiley & Sons, Inc., 1959), pp. 182-185.

ready for administration to the sample, consisted of 158 items relating to eight values as described above.

Internal Consistency Analysis

In order to determine which items discriminated between low and high scorers an item discrimination analysis was conducted. Estimates of sub-scale and total scale reliability were obtained by an internal consistency analysis.

Item Discrimination Analysis

The following Null Hypothesis was tested by chi square for each statement of the instrument for both elementary and secondary teachers.

Null Hypothesis: There is no difference between the frequency of responses to item alternatives of those whose scores fall in the lowest 27 per cent and those whose scores fall in the highest 27 per cent.

The chi squares of the item or statement analysis are summarized in Table 3.4. (The response frequencies and probability levels for each chi square are presented in Appendix B, Tables 1 and 2.) From Table 3.4 it can be ascertained that the Null Hypothesis was rejected for 110 (69 per cent) of the original 158 items. They discriminated significantly between the low scoring and high scoring teachers in both the validation and cross-validation groups. (The items are listed in Appendix A.)

Table 3.4

Summary of Number of Items Discriminating Between the
Upper and Lower 27% of Responses at Various Chi Square Levels

Sample	Number of items for each chi square level			
	.20	.10	.02	.0004
Elementary (N = 54)				
Validation Only	115			
Cross-validation Only		98		
Both Groups			87	
Secondary (N = 54)				
Validation Only	117			
Cross-validation Only		99		
Both Groups			90	
Total common to the four groups				110

Sub-scale Internal Consistency Analysis

Internal consistency reliability estimates for the eight sub-scales of the instrument are summarized in Table 3.5 for elementary teachers and in Table 3.6 for secondary teachers. A random sample of 50 test sheets was selected from each group. Only the 110 discriminating items were included. The estimates were obtained by Hoyt's analysis of variance technique. The number of statements belonging to each sub-scale can be determined from the df columns.

Table 3.5

Summary of Hoyt's Analysis of Variance Reliability
Estimates for the Sub-scales
Elementary Teachers
N = 50

Scale		df	Variance	Reliability
Achievement	Individuals	49	.26	.73
	Items	9	.33	
	Error	441	.07	
Orderliness	Individuals	49	.30	.80
	Items	13	4.67	
	Error	637	.06	
Frugality	Individuals	49	.28	.74
	Items	8	.52	
	Error	392	.12	
Perseverance	Individuals	49	.22	.72
	Items	10	1.97	
	Error	490	.06	
Aggression	Individuals	49	.08	.50
	Items	13	3.58	
	Error	637	.09	
Rationality	Individuals	49	.16	.75
	Items	5	2.62	
	Error	245	.05	
Property	Individuals	49	.03	.33
	Items	4	.07	
	Error	196	.02	
Locus of Responsibility	Individuals	49	6.48	.99
	Items	40	3.13	
	Error	1,960	.003	

Table 3.6

Summary of Hoyt's Analysis of Variance Reliability
 Estimates for the Sub-scales
 Secondary Teachers
 N = 50

Scale		df	Variance	Reliability
Achievement	Individuals	49	.21	.71
	Items	9	1.69	
	Error	441	.06	
Orderliness	Individuals	49	.30	.83
	Items	13	4.59	
	Error	637	.05	
Frugality	Individuals	49	.27	.70
	Items	8	.79	
	Error	392	.08	
Perseverance	Individuals	49	.24	.70
	Items	10	2.25	
	Error	490	.07	
Aggression	Individuals	49	.26	.61
	Items	13	3.41	
	Error	637	.10	
Rationality	Individuals	49	.19	.78
	Items	5	3.00	
	Error	245	.04	
Property	Individuals	49	.03	.33
	Items	4	.07	
	Error	196	.02	
Locus of Responsibility	Individuals	49	6.34	.99
	Items	40	3.73	
	Error	1,960	.02	

All of the estimates were at or near an acceptable reliability level except for the aggression and property scales. Because the items which were retained discriminated in all four samples at the .0004 level and because group description was the main focus of the study all eight scales were retained for further analysis. The small number of items would tend to produce low reliabilities. Thus, future developments on the scales will necessarily involve increasing the number of items to raise low reliabilities to more acceptable levels.

Total Scale Internal Consistency Analysis

Two internal consistency reliability estimates were computed for the total scores on the 110 discriminating items for each sample group. Hoyt's analysis of variance technique was used again to analyze the total scores of a random sample of 50 elementary teachers and another random sample of 50 secondary teachers. The estimates are summarized in Tables 3.7 and 3.8.

Percentage of Agreement

The percentage of agreement for the valid items, which could be used as an index of difficulty for each item, for the four sample groups is reported in Appendix B, Table 4.

Table 3.7

Summary of Hoyt's Analysis of Variance Reliability
 Estimate for Total Scores
 Elementary Teachers
 N = 50

	df	Variance	Estimate of Reliability
Individuals	49	.67	.82*
Items	109	2.09	
Error	5,341	.12	

*Significant above the .01 level

Table 3.8

Summary of Hoyt's Analysis of Variance Reliability
 Estimate for Total Scores
 Secondary Teachers
 N = 50

	df	Variance	Estimate of Reliability
Individuals	49	.87	.87*
Items	109	2.77	
Error	5,341	.11	

*Significant above the .01 level

Correlation Analysis

The purpose of the correlation analysis was to determine whether or not the sub-scales were independent. Although the sub-scales

demonstrated acceptable reliability, if there were much over-lap or correlation between the scales the content validity would be in doubt and what was actually being measured would be unknown. The Null Hypothesis tested by the product moment intercorrelation coefficients computed for the eight sub-scales was:

Null Hypothesis: There is no relationship between any of the sub-scales of the instrument.

The intercorrelations are given in the correlation matrices in Tables 3.9 and 3.10. All correlation coefficients in the tables were computed for a random sample of 50 elementary teachers and 50 secondary teachers.

For the elementary sample it can be ascertained from Table 3.9 that of the 28 correlation coefficients only five were significantly

Table 3.9

Intercorrelations Among Sub-scales
Elementary Teachers
N = 50

Sub-scales	1	2	3	4	5	6	7	8
1	1	.14	.20	-.27	-.19	.01	.30*	.24
2		1	-.16	-.05	-.13	-.08	-.02	.01
3			1	-.29*	-.14	.27	.32*	.13
4				1	-.07	-.17	-.29*	-.03
5					1	-.27	-.32*	-.16
6						1	.24	.24
7							1	.20
8								1

*Significant above the .05 level

Table 3.10

Intercorrelation Among Sub-scales
Secondary Teachers
N = 50

Sub-scales	1	2	3	4	5	6	7	8
1	1	-.003	-.21	-.03	.16	-.01	-.32*	-.10
2		1	-.14	-.06	.26	-.08	.01	-.10
3			1	-.27	-.18	.27	.35*	.08
4				1	.11	-.22	.09	-.15
5					1	-.33*	-.07	-.007
6						1	.58**	.11
7							1	.05
8								1

*Significant above the .05 level

**Significant above the .01 level

high enough above chance to reject the Null Hypothesis. Four of the five related to sub-scale 7, the care of property. The remaining instance indicated a small negative correlation between sub-scales 3 and 4. For the secondary sample the Null Hypothesis was rejected in four instances only and three of the instances related to sub-scale 7. In the one remaining instance a small negative correlation was indicated between sub-scales 5 and 6.

Of the total of 58 correlation coefficients 16 percent or nine were significantly high enough to reject the Null Hypothesis. Of the nine instances of rejection seven belonged to the single sub-scale 7. Sub-scale 7 clearly did not measure an independent or unique value. Only four statements remained in the scale after previous analysis and testing; these items, and thus the entire scale, were dropped.

The other two instances of significant, but small, negative correlation represented two different scales for the two sample groups and did not appear high enough to cast any doubt on the sub-scales involved. Seven sub-scales composed of 106 discriminating items which represented seven independent values remained.

Summary

Twenty-four teachers were interviewed to determine what values they felt the ideal student would personally hold. The ten most consistently emphasized ones were selected as being most relevant for the study.

Before proceeding with the construction of the full instrument, a validation-of-the-procedure study was conducted to test the underlying assumption--attitudinal statements toward specific objects or behavior that relate to a single, abstract value could be written. One of the ten values, achievement, was selected. Statements (25) that it was felt indicated various attitudes toward specific kinds, types, and degrees of achievement were written. A sample of 48 teachers took this single scale. Five items randomly selected scaled by the Guttman method with a coefficient of reproducibility of .97. The results lent support to the underlying assumption.

Attitudinal statements, 25 relating to each of the ten value categories, were written as though the student was making them. The problem of the biasing effect of such factors as social desirability,

falsification, stereotypy, and response bias were considered and techniques such as projection, anonymity, disguising real measurement, and negative items were incorporated in the instrument in order to minimize any biasing effects. The 250 statements were screened for clearness and distinction of meaning by administering them to a sample of 40 teachers. Items of three of the value categories were found to overlap and the three categories were collapsed into a single value, eliminating 50 statements.

Four judges classified each of the 200 statements as belonging to one of the eight value categories: achievement, orderliness, perseverance, frugality, control of aggression, rationality, respect for property, and locus of responsibility. Correlation coefficients for the classification of each judge (r equals .99, .99, .99, and .79) with the classification of the instrument as originally constructed were computed. A correlation matrix and a multiple correlation coefficient (.99) were computed. Although all coefficients were at or near an acceptable level it was decided to drop all items that did not have 100 per cent inter-judge agreement in order to maximize content validity. Forty-two items were dropped.

The instrument, 158 items relating to the eight value categories, was administered to a sample of 100 elementary and 100 secondary teachers and to a sample of identical magnitude for cross-validation of the findings. A chi square analysis with a predetermined significance level of .02 was conducted to determine which items

discriminated between low and high scorers. It indicated that 110 items discriminated significantly at .0004 level for all four groups.

Hoyt's analysis of variance method was used to estimate reliabilities for the eight sub-scales and the total scale. The reliability estimates for the total scale were .82 for the elementary sample and .87 for the secondary sample. All the reliability estimates for the sub-scales were at or near an acceptable level except for two sub-scales, aggression (.61) and property (.33). A correlation matrix was computed for the sub-scales and no significant intercorrelations were found except for sub-scale property. The scale was dropped from further analysis. Because of the fact that the items of sub-scale aggression discriminated at the .0004 level it was retained for further analysis with the realization that future development of the instrument would require the addition of more items to raise the low reliability.

The final form of the instrument used in the analysis contained 106 statements which related to seven value categories.

CHAPTER IV

THE ANALYSIS

In this chapter the result of the analysis of the differences between the values held by elementary and secondary teachers is presented. The analysis is presented under three divisions: (1) item response analysis, (2) sub-scale scores analysis, and (3) total scores analysis. The analysis relates to the testing of research hypotheses set forth in Chapter II which presented the design of the study.

Item Response Analysis

The research hypothesis underlying this division of the analysis was that elementary and secondary teachers would respond similarly to the value laden statements. The following Null Hypothesis was tested by chi square analysis to determine whether or not there was any significant difference between the responses of elementary and secondary teachers to any of the 106 discriminating and reliable items.

Null Hypothesis: There is no difference between the responses of elementary teachers and the responses of secondary teachers to the statements of the instrument.

Because small expected frequencies lead to a violation of basic assumptions underlying the use of chi square, a point had to be determined below which items would be rejected even though they met the established .02 level of significance. A rough approximation of setting lower limits on expected frequencies was adopted by accepting no item which had a column response total of less than 12. (The limit was not applicable to rows because the row totals were determined by the sample number.) The chi square probability values for the items are presented in Appendix B, Table 3. Of the 106 statements 98 (93 per cent) showed no significant difference between the responses of elementary and secondary teachers. The Null Hypothesis was rejected for eight items.

Sub-scale Scores Analysis

The following Null Hypothesis was tested for the sub-scale scores of the four sample groups:

Null Hypothesis: There is no difference between the scores of elementary and secondary teachers on each of the sub-scales.

The tests of significant differences are summarized in Tables 4.1 and 4.2. From the tables it can be ascertained that there was no significant difference between the scores of elementary and secondary teachers on the seven sub-scales. A high degree of similarity was demonstrated and in no case was the Null Hypothesis rejected.

Table 4.1

Tests of Significance between Elementary Validation
and Secondary Cross-validation Samples

Legend: $\bar{x}_{ev}$ means of Elementary Validation Sample

$\bar{x}_{scv}$ means of Secondary Cross-validation Sample

Hypothesis: $\mu_{ev} = \mu_{scv}$

Sub-scale	$\bar{x}_{ev}$	s	$\bar{x}_{scv}$	s	"t"	Level of Significance
Achievement	7.48	2.08	7.40	2.19	.12	N. S.
Orderliness	11.21	2.51	11.18	3.09	.04	N. S.
Perseverance	6.70	1.87	7.07	1.98	.59	N. S.
Frugality	6.49	2.58	6.57	2.25	.31	N. S.
Aggression	10.70	2.61	10.24	3.04	.76	N. S.
Rationality	4.47	1.55	4.66	1.40	.35	N. S.
Locus of Responsibility	23.81	5.68	23.21	5.67	.18	N. S.

Table 4.2

Tests of Significance between Secondary Validation
and Elementary Cross-validation Samples

Legend: $\bar{x}_{ecv}$ means of Elementary Cross-validation Sample

$\bar{x}_{sv}$ means of Secondary Validation Sample

Hypothesis: $\mu_{ecv} = \mu_{sv}$

Sub-scale	$\bar{x}_{ecv}$	s	$\bar{x}_{sv}$	s	"t"	Level of Significance
Achievement	7.53	1.86	7.49	1.77	.07	N. S.
Orderliness	11.52	2.09	11.05	2.34	.68	N. S.
Perseverance	7.09	1.70	6.76	1.88	.57	N. S.
Frugality	6.42	3.19	7.23	3.03	1.04	N. S.
Aggression	10.57	1.96	10.16	2.01	.66	N. S.
Rationality	4.68	1.13	4.86	1.37	.32	N. S.
Locus of Responsibility	23.81	5.32	24.17	5.86	.34	N. S.

Total Scores Analysis

The following Null Hypothesis was tested for the total scores of the four sample groups:

Null Hypothesis: There is no difference between the total scores of elementary and secondary teachers.

The "t" test was not significant for either the validation sample (1.10) or the cross-validation sample (1.56). The Null Hypothesis in both instances was accepted.

Summary

Three analyses were conducted to determine whether or not elementary teachers and secondary teachers of the sample groups differed significantly in the values they held as relating to the ideal student.

Of the 106 items 98 (93 per cent) showed no significant difference in responses of elementary teachers and secondary teachers at the .02 level of confidence for both the validation and cross-validation samples.

Tests of significant differences in the scores of elementary and secondary teachers for both the validation and cross-validation samples were conducted with no significant "t" resulting. A high degree of response similarity for the two teacher groups was demonstrated.

The "t" tests of significant differences between the two teacher groups on the total scores indicated no significant difference for the validation sample (1.10) nor for the cross-validation sample (1.56).

A high degree of response similarity for elementary and secondary teachers of the samples was demonstrated on the items, sub-scale scores, and total scores.

CHAPTER V

SUMMARY, CONCLUSIONS, AND DISCUSSION

Problems of vague and conflicting definition, of no or loosely developed theory, of limited research designs, and of inadequate measuring devices all join forces to frustrate attempts to clarify and measure values. The goal that beckons the researcher is that of concise operational definition leading to a reliable and valid measure. This study constitutes an attempt to pursue the goal.

Purpose of the Study

The purpose of the study was: first, to determine specific values which are held in common by teachers in a wide range of Michigan public schools, second, to develop and test an instrument for measuring these values, and third, to make a comparison of elementary and secondary teachers as to the values held by them.

For the study, a new theoretical formulation of values and their relation to certain other human variables was developed. Values were defined as broad abstractions from the self-concept. The abstraction became a value if it was seen as maintaining or enhancing the self. It was further theorized that attitudes were concretations of a value and directed toward a specific object. Thus while values could not be

measured directly they could be indirectly by measuring the specific attitudes which reflected a particular underlying value.

It was desired that the end product of the research would be:

1. an interpretable instrument which measured certain values that related to the area of education,
2. an easily administered and scored instrument,
3. an objective measure screened through external validating and cross-validating groups, and
4. interpretable data comparing elementary and secondary teachers' values.

Underlying Assumptions and Hypotheses

It was assumed that teachers, when asked to describe what the ideal student was like, would provide basic constructs of teacher value-orientations. It was further assumed that the statements of the teachers could be summarized under a few generic headings and from these headings a pool of items could be generated.

The basic hypotheses of the study were:

- Hypothesis I:** Judges, making independent decisions, will agree in their classification of the items with the original headings developed following the assumptions above.
- Hypothesis II:** All the items for which there is 100 per cent agreement on the part of the judges will, when formed into total and sub-scales, evidence high internal consistency, i. e., item, sub-scale, and total scale reliabilities will be high.

Sub-Hypothesis II: The sub-scales will evidence independence.

Hypothesis III: Elementary and secondary teachers will respond similarly to the value laden statements, the sub-scales, and the total scale for both validation and cross-validation tests.

The Design

The hypotheses were tested within the confines of a descriptive study which involved

1. selecting the values and developing the instrument,
2. administering the instrument to sample groups of elementary and secondary teachers,
3. refining the instrument, and
4. analyzing sample differences or similarities.

Development of the Instrument

Ten values were selected for the study from personal interviews with teachers. A process validation study was conducted on one of the values which demonstrated that attitudinal statements would scale indicating the relative strength with which the underlying value was held.

Statements (250) were then written which related to or reflected the ten values by reflecting attitudes toward specific objects or behavior. The statements were screened by administering them to a sample of 40 teachers. Overlap of three values was discovered and removed. Confused or unclear items were revised or dropped. The first full form of the instrument contained 200 statements that related to ten values or

sub-scales. Judges were asked to classify each statement with the value to which it related. Only items with 100 per cent inter-judge agreement were retained. The final form of the instrument before experimental administration contained 158 statements, eight values represented by eight sub-scales.

After external validation and cross-validation seven sub-scales with 98 discriminating, reliable, and valid items remained. One sub-scale, care of property, did not yield a sufficient number of items and demonstrated too much overlap with the other scales to warrant retention.

Sample

The sample consisted of 400 teachers with a minimum of one year teaching experience in Michigan public schools. The validation sample, 100 elementary teachers and 100 secondary teachers, was selected from education extension courses offered by Michigan State University at extension centers in Grand Rapids and Oakland University during the spring of 1963. The cross-validation sample, 100 elementary teachers and 100 secondary teachers, was selected from summer school education courses offered on the campus of Michigan State University during the summer of 1963. Over 150 public schools, scattered over the southern half of the state were represented in the samples.

Analysis Procedures

Three major types of analyses were conducted on the data relating to the three research hypotheses: (1) estimates of inter-judge agreement, (2) estimates of item, sub-scale, and total scale reliabilities, and (3) estimates of population differences.

Inter-judge Agreement

Four judges, three counseling psychologists and one teacher, classified each statement with the value to which it related. The criterion was the test as it was originally constructed. Correlation coefficients ranged from .74 to .99 with a multiple r of .99.

Item Discrimination Analysis

The 2×2 chi square contingency table model was used for item discrimination analysis. The four point rating scale (always, usually, sometimes, and never) was arbitrarily dichotomized between "sometimes" and "usually." The level of significance for the chi square analysis was set at .20 for validation and .10 for cross-validation. A total of 110 items discriminated between low and high scorers significantly.

Reliability Estimates

Hoyt's analysis of variance was used to estimate reliability for the eight sub-scales and the total test. The reliability estimates for

seven of the scales for both elementary and secondary samples ranged from .50 to .99 which were significant above the .01 level. For one scale, the care of property, a reliability estimate of .33 was obtained for both elementary and secondary samples. For the total test a reliability estimate of .82 was obtained for the elementary sample and .87 was obtained for the secondary sample. Both estimates were significant above the .01 level. Although estimates obtained satisfactory levels, sub-scale 7, the care of property, appeared to be the weakest part of the test and warranted further investigation.

Sub-scale Intercorrelation

A correlation matrix of the sub-scales was computed for both elementary and secondary samples. Of the 58 correlation coefficients nine were significant. Seven of the significant coefficients indicated overlap between sub-scale 7 and several of the other sub-scales. Sub-scale 7 clearly did not measure an independent or unique value and it was dropped from the analysis. The other two significant coefficients, one for elementary teachers and one for secondary teachers, were low and isolated sufficiently to cast little doubt upon the independence of the sub-scales involved.

Sample Difference Analysis

A chi square (same program as was used for the item discrimination analysis) was computed for each of the 106 remaining items as a test of difference between elementary and secondary teachers for

validation and cross-validation groups. Of the 106 discriminating items 92 per cent (98 items) did not reach a significant level indicating little difference between the responses of the sample groups.

Tests of significant difference were made on the sub-scale and total test scores for the two populations. Again no significant "t" score resulted indicating no significant difference between the elementary and secondary teachers measured.

Conclusions and Discussion

The study generated a number of conclusions all of which must be interpreted within the limits of the research design.

1. Assumptions, such as the ones that underlie the approach to the development of the instrument, arouse some guilt in the researcher of human behavior. There always may be other approaches that would produce different results or other variables which better explain the results. However, the positive results obtained in the study and the high degree of value agreement among the teachers studied would indicate that the assumptions were defensible and provided a useful operationalism. While many other values may have been overlooked, the values provided by the teachers interviewed did provide some generic headings of teacher value-orientation from which statements could be generated.

2. Abstract qualities or constructs, as values, have no concrete or objective referent. Proving the validity of a test of them

becomes impossible except by using the human yardstick of concensus of opinion. Inter-judge agreement on the test as originally constructed was high (multiple r of .99). The items retained had 100 per cent agreement as to which value each statement referred. The results of this analysis were interpreted as lending support to content and construct validity.

3. Each of the seven sub-scales retained measured an independent or unique value.

4. Satisfactory reliability estimates were evidenced for the items, sub-scales, and total scale. However, test-re-test stability estimates are needed before the nature of the variance is more nearly fully established.

5. The retained items, the sub-scales, and the total scale cross-validated satisfactorily.

6. No significant differences between the responses of elementary and secondary teachers or between the validation and cross-validation samples were demonstrated. On six of the values measured by the instrument the teachers showed a high degree of agreement in a positive direction. The teachers tested indicated that they wanted the ideal student to prize highly the values of achievement, orderliness, frugality, perseverance, rationality, and to control aggression strongly. Although there may be other areas of consistent agreement or disagreement, the values measured by the instrument do constitute a core of "typical-teacher" values.

7. Final sub-scale 7, locus of responsibility, demonstrated the highest reliability (r equals .99) of any of the sub-scales. The correlation analysis also indicated that it was an independent construct although there were five different processes included in it. When the per cent of agreement with the individual statements was analyzed a possible conflict was revealed. All the sample groups consistently agreed highly with statements that favored the ideal student accepting responsibility for process 1, self-initiating, and process 5, self-evaluating. However, in the areas of structuring, directing, and supporting, the teachers tested clearly wanted to retain the responsibility for these processes in the classroom for themselves.

Implications for Further Research

1. Because of the varying number of items that related to the five sub-processes that made up the locus of responsibility sub-scale, and because they were not individually included in any of the analyses no conclusions can be made concerning them. The construct does appear to be a useful and operational one. Further research to establish the validity and reliability of the sub-processes and to analyze teacher differences would be profitable. Also a research study of possible teacher-student conflict or disagreement in this area might be most revealing.

2. The study indicated that teachers do hold a common core of values. The scale could be used to determine if rejection or

acceptance of this core of values on the part of the student relates significantly with "under-" or "over-achieving."

3. The scale could be used to study sub-cultural or cross-cultural differences in values held in various educational settings and levels.

4. Previous research has shown that teachers stay longer and work better in cultures similar to their own cultural background. Norms could be developed for any given geographical area and the scale could be studied to determine whether or not it could be used to predict how well a teacher would fit into a particular school system and also how well he would relate to his students.

The research of the preceding pages represents an attempt to study and measure values in an academic setting. The usefulness and stability of the instrument and positive findings can only be assessed by future replications. The number and scope of the values studied are limited, but the approach seems to be a valid and useful one. It is hoped that other studies in the area of values will be undertaken.

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APPENDIX A

EXPERIMENTAL TESTS

STUDENT VALUE SCALE

I. The teacher-pupil relationship is a two-way relationship. Much research has been done on the teacher's end of this relationship, attitudes, beliefs, values, etc. Very little has been done on the pupil's end of this relationship and the effect of these attitudes, etc., upon the teacher. This list is the beginning of an attempt to investigate the differences in pupil attitudes and values, especially which ones make the child easy to work with and which ones make it difficult.

II. Will you please respond to the following statements as you think the IDEAL PUPIL would. Simply draw a circle around one of the four letters following each statement. A= always, U= usually, S= seldom, N= never.

Thus:

1. I like school. A U S N

This response would mean that you feel that the ideal pupil in your room would usually like school. Some of the statements will not be relevant to your particular school--such as letter grades--but please go on and answer the statement as though it were.

III. Please give the following information.

1. The grade you teach _____.
2. Years of teaching experience _____.
3. Sex _____.

PLEASE REMEMBER THAT YOU ARE ANSWERING THE WAY YOU THINK THE IDEAL PUPIL WOULD. THANK YOU.

1. I would like to make straight A s and be at the top of my class.
A U S N
2. I feel bad when I turn in an assignment that I did not do my best on.
A U S N
3. I want to make good grades, but I don't feel that I should always be the best. A U S N
4. When I know we are going to have a test, I study real hard for it.
A U S N
5. Being well-liked and well-rounded with average grades is better than being one-sided with a few friends and superior grades.
A U S N
6. I feel that I would have a poor chance to succeed without a college degree. A U S N
7. In college I would want to learn about as many things as I can even though they might have no practical value. A U S N
8. Even if I got as good a job as a college graduate I would still be very disappointed if I did not get to go to college. A U S N
9. I would rather go to a prestige college like Harvard, Yale, Vassar, or Radcliff than to a state university. A U S N
10. In this day and age I want to go to a college that majors more on science and technology than on just liberal arts. A U S N
11. The main reason for getting a job is to earn a living. A U S N
12. I owe it to my family to choose a job that offers the best pay even though the work may be uninteresting and unpleasant. A U S N
13. One should give more emphasis to developing a rich, close family life than striving to succeed financially and "get ahead" in business.
A U S N
14. The fact that I have "willing hands" for work should be more important to an employer than my background and personality. A U S N
15. Being loyal to one's family traditions and background is more important than one's own success. A U S N
16. I expect that the main satisfactions in life will come from outside my job. A U S N

17. A position that challenges my ability, holds my interest, and offers opportunities for advancement is what I want. A U S N
18. I like to compete without being aggressive. A U S N
19. Alertness, ability, and hard work have more to do with one succeeding than luck, good circumstances, or politics. A U S N
20. The past is of little importance; it is what I achieve in the future that counts. A U S N
21. Wealth that is inherited has more social prestige than money that is earned by hard work and shrewdness. A U S N
22. If I have wealth I can do nothing better with it than to cultivate art and music in my community. A U S N
23. I expect to reach the top in my field. A U S N
24. I don't care what kind of job I have if I am happy. A U S N
25. Receiving added responsibility is the mark of a successful man. A U S N

THANK YOU

"IDEAL-STUDENT" VALUES INVENTORY

- I. To do something that may make a teacher's job easier is the goal of this study. Possible future uses might include: better grouping of students for smoother running classes, finding the causes of underachieving, the source of the conflicts that cause behavior problems, etc.
- II. This study is a straightforward attempt to discover what the "Ideal Student" is like. What values would he hold that motivate his behavior. Much research has been done on Teacher Attitudes and Values, but little on those of the student. The question we are trying to answer is, "What values make one child a pleasure to work with and another a problem?". We realize that 200 items may seem a little lengthy, but if this study is to produce any valid results it could be no shorter.
- III. Please respond to the following statements on the enclosed answer sheet as you would expect the "Ideal Student" would respond. We do NOT want to know your values, but those you think the "Ideal Student" would hold. For each statement of the inventory blacken space 1, 2, 3, or 4 on the answer sheet. Would the "Ideal Student" 1. Always agree, 2. Usually agree, 3. Seldom agree, 4. Never agree with this particular statement. Thus:

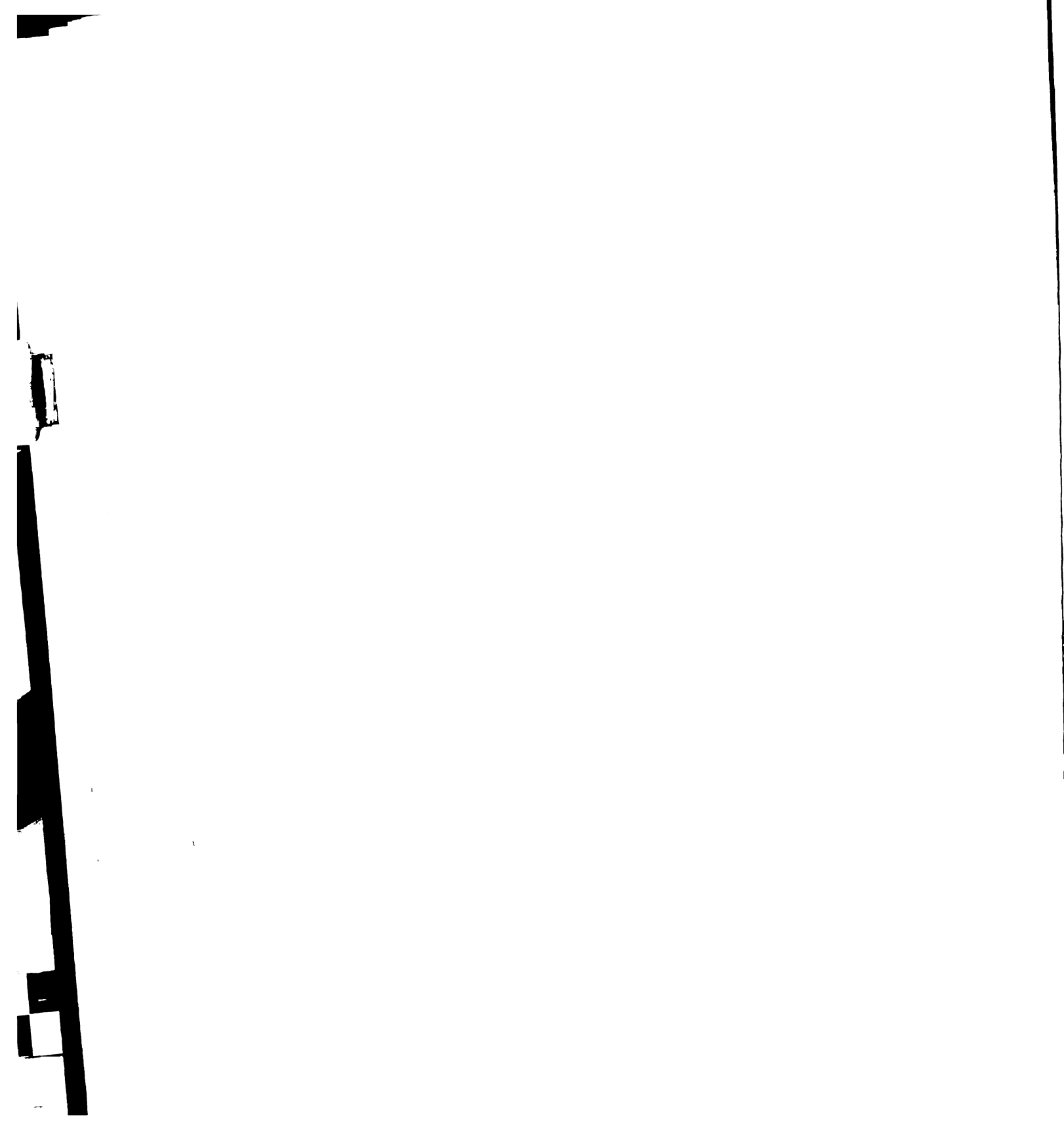
1. I like school. 1 2 3 4
 / / / / / /

This response would mean that you think the "Ideal Student" would usually agree with this statement, i. e. he would usually like school. Some of the statements may not be applicable to your present situation, but please go ahead and respond as though they were.

- IV. Give ONLY the following information on the Answer Sheet:
 NO NAME----on this line give the number of years you have taught.
 Grade or Class----the grade you now teach or simply write High School.
 Age----(Remember you are anonymous)
 Sex

Please remember that you are responding the way you think the IDEAL STUDENT would respond.

THANK YOU SO VERY MUCH FOR YOUR HELP AND COOPERATION!!!

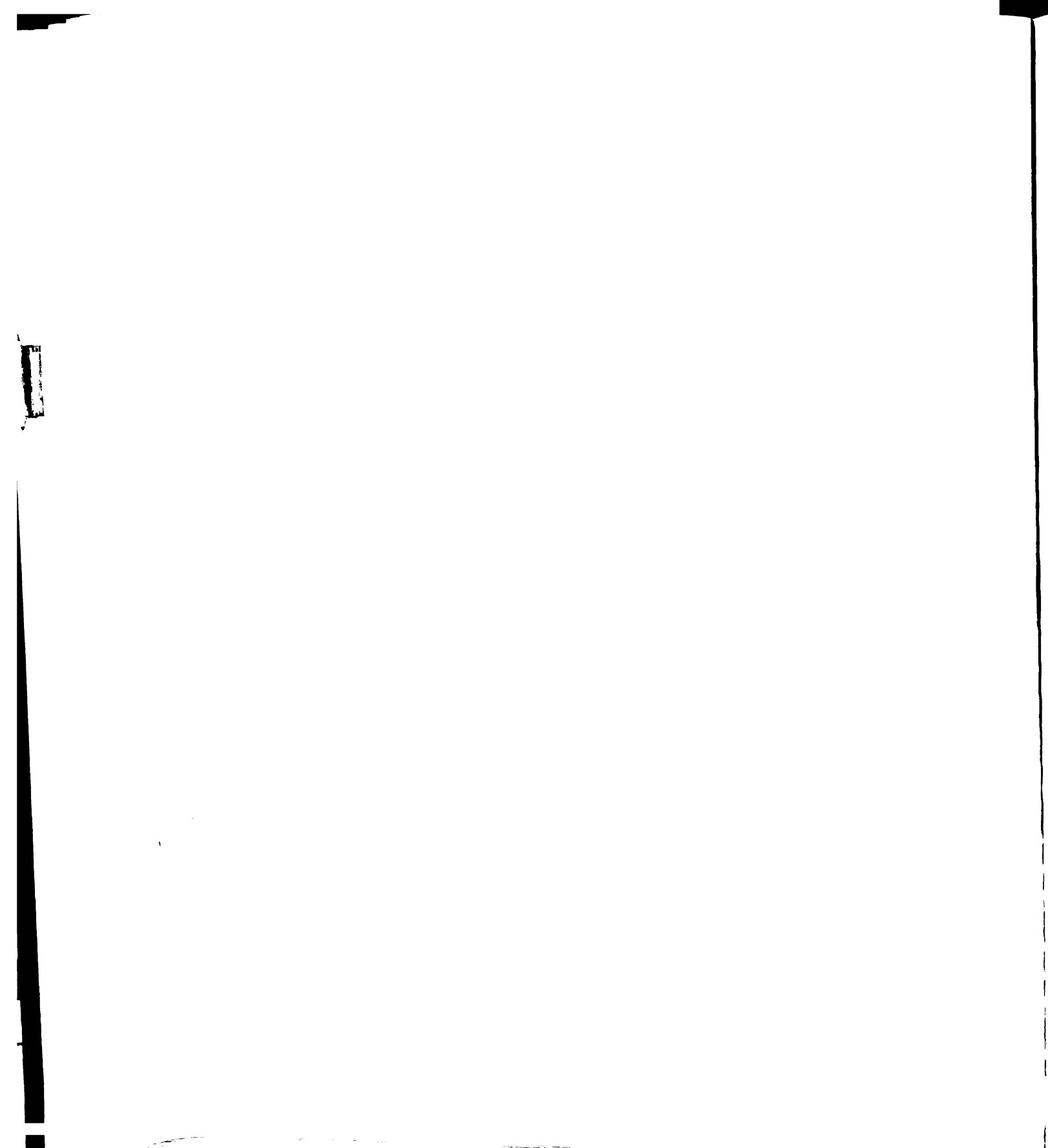


1. I want to make good grades, but I don't feel that I should always be at the top of my class.
2. When I take notes in class I like to keep them neatly arranged in my notebook.
3. When I know that we are going to have a test, I study real hard for it.
4. When I have a hard task to do I do not like to give up on it.
5. When I start on my homework I like to keep at it until it is all done.
6. If it seems that I am getting nowhere on a problem I want to give up.
7. When assignments are returned to me I feel it is wise to save them.
8. When I am working on a lesson I like to finish it before starting on something else.
9. I like to obey my teacher and do just what she wants me to do.
10. When I am with my friends I like to have someone else decide what to do.
11. I do not want to make an important decision all by myself.
12. I want to have good manners in consideration of others.
13. I feel that the classroom should be a free market place of ideas.
14. I feel that I should stop and think before I do or say something in school.
15. Teachers who train the students to make up their own minds teach best.
16. I believe that I should be encouraged to read materials of widely divergent points of view and then to make up my own mind.
17. I consider matters from every angle before I make a decision.
18. I feel that the teacher should make the classroom a forum for each student's ideas and encourage each student to express himself clearly.
19. I feel that I would have a poor chance to succeed without a college degree.

20. In college I would want to learn about as many things as I can even though they might have no practical value.
21. I like to explore new realms and to fool around with new ideas even if they are useless.
22. Even if I got as good a job as a college graduate I would still be very disappointed if I did not get to go to college.
23. I feel I should put things back in place when I have finished with them.
24. I do not like to stop in the middle of any game, job, or task.
25. I like to work out a plan before I start to do anything that is difficult.
26. I do not like to study in a messy room.
27. If I do not finish what I start it sticks in my mind until I do.
28. I feel that there are times I should "get even" with someone who has played a trick on me.
29. I feel that it is wrong for me to waste time doing nothing.
30. If I have an apple I did not eat for lunch, I feel I should take it home.
31. I would like to be able to keep all my school books.
32. The teacher should encourage me to feel free to believe what I want.
33. I like to figure things out for myself without any help from others.
34. I do not believe that teachers should try to indoctrinate students in any way as that is the parents' responsibility.
35. I enjoy an assignment more when I can work at it my own way.
36. I feel I should be independent of others in making my decisions.
37. Since most students are still impressionable and immature I feel that the teacher should protect the students from harmful ideas and theories.
38. In school I feel I should look far ahead in planning my future courses.

39. I feel that it is wrong for me to accept authority and authoritarian statements without questioning and a critical examination.
40. Often I trust my feelings more than logical reasoning.
41. My clothes may not be the best in my room, but I want them clean and neat.
42. If I start reading a story I don't want to stop until I finish it.
43. When I break something I like to throw it away instead of keeping it.
44. Never throw anything away that may be useful in the future.
45. In my classes I am often the last one to give up trying to do something.
46. I believe my school should teach the value of thrift.
47. When I get wrapped up in something I find it hard to stop and work on something else.
48. When I get angry I feel like breaking something.
49. I feel it is wrong to hurt other people's feelings even when they hurt me.
50. I want my teacher to show me a lot of attention and affection.
51. I want my teachers to feel sorry for me when I am sick.
52. I believe a teacher should seek to develop patriotism in her classes.
53. I feel that we should use our minds to control our feelings.
54. I would rather work out a new way to solve a problem than follow a known way.
55. I like to contemplate such things as the future of man, how to create a better world, etc.
56. I expect the main satisfactions in life will come outside my work.
57. I feel that I should finish what I start even if it is not too important.
58. I like to keep to a regular schedule because I can accomplish more that way.

59. When I have carefully made up my mind no one can change it easily.
60. I believe that promptness is very important.
61. I like to hear speakers who challenge my beliefs.
62. I like to have my teacher make a fuss over me when I have hurt myself.
63. I do not like people making a fuss over me when I hurt myself.
64. I feel that I should never be a tattletale.
65. I need encouragement regularly to work well.
66. I do not like to see students come to school carelessly dressed.
67. When a teacher makes me angry I do not feel like doing my work.
68. I like to have a place for everything and everything in its place.
69. I like to hang up my coat immediately upon taking it off.
70. I feel I am eager to get along with others at school.
71. I can not work on a schedule because I do things better when I am in the right mood.
72. I do not like to be in a group that is gossiping about people.
73. There are times I really feel like swearing.
74. Often I wait until the last minute to get things done.
75. I prefer to dress the way I like rather than follow school fads and styles.
76. I do not like to accept old truths until I have tested them for myself.
77. I feel that obedience to rules and customs is not necessarily good unless I can see a sensible reason behind them.
78. I feel that mankind is capable of building a better world, if they think.
79. Wealth that is inherited has more social value than money that is earned.



80. I believe that the only "ism" that should be taught in our schools is Americanism.
81. I feel it is the teacher's duty to preserve the American way of life.
82. I should do my work myself because I learn more that way.
83. I feel that a teacher should teach facts and I should learn them.
84. I feel that in a sense the teacher is the expert and should direct the discussion and course of learning in the classroom.
85. Students, I feel, do not have the experience nor background to know what they should learn and must be guided by a teacher.
86. I do not like to be sarcastic nor talk to sarcastic people.
87. Though many of my classmates hold differing opinions, I believe I should hold my own.
88. I believe that testing students can be fair only when everyone is tested on the same material.
89. Instead of discussing my personal problems with other people I like to work them out myself.
90. I feel that encouraging original ideas should come second to learning skills.
91. I expect to reach the top in my field.
92. I should not feel pleased when someone I dislike gets into trouble.
93. Because there is so much material to be covered in a class, I feel the teacher should teach and not waste time in fruitless discussions.
94. Receiving added responsibility is the mark of a successful man.
95. When I am justly annoyed I still feel I should not blurt out a remark that might hurt someone's feelings.
96. When people are unreasonable I tell them so kindly.
97. As a rule I do not like to be unconventional.
98. I like non-specific assignments that allow me to use my imagination.

THANK YOU!!!

(The following items were dropped from the instrument at various stages of the development and analysis.)

99. I would like to make straight A's and be at the top of my class.
100. I like to keep my desk neat and orderly at all times.
101. I do not like to turn in an assignment that I did not do my best on.
102. When I have some written work to do I like to have it well organized.
103. When I get my allowance I feel that I should save part of it regularly.
104. When I am writing I feel that it is a waste not to use both sides of the paper.
105. I like to have specific instructions about what the teacher wants me to do.
106. I must control my anger and not show it in the school room.
107. There are times when I must fight back or my friends will think me a coward.
108. I believe I should never start a fight, but if someone hits me first I should defend myself.
109. It is very wise to plan your work ahead.
110. I don't like to see students mark in a library book.
111. Being well-liked and well-rounded with average grades is better than being one-sided with superior grades.
112. I like to read and frequently find myself reading while class is going on.
113. I like to read the off-beat, unusual, and non-required.
114. I had rather go to a party that has been well planned than to have to make up our games.
115. I believe perseverance is just as important for success as ability.
116. There are times I should give in during an argument even though I know that I am right.

117. I should never do things to make my teacher angry.
118. When I disagree with someone I feel like arguing with him.
119. If someone deserves it he should be criticized publicly.
120. I like to ask my teacher for help when I am puzzled by a problem.
121. I believe that current controversial issues should be left out of the classroom discussion because arguments may arise.
122. I like a teacher who allows me to do my own original thinking.
123. I often do what is most fun now even at the cost of some future success.
124. I am willing to agree with those who hold ideas that are unpopular if their ideas make sense to me.
125. I do not like my teacher to tell us in what style work must be performed as I like to work out my own approach.
126. I feel that it is my responsibility to take good care of my school's property.
127. I would rather go to a prestige college like Harvard, Yale, Vassar, or Radcliff than to a state university.
128. Before going to bed I feel I should plan everything that I will wear the next day.
129. I want a broad education in college and not expert, specific preparation for a vocation.
130. The main reason for getting a job is to make a living.
131. I want my teacher to keep the room quiet and orderly.
132. I will owe it to my family to choose a job that offers the best pay even though the work may be uninteresting and unpleasant.
133. I do not like to be interrupted while I am working on something.
134. I believe it is wise to save for a "rainy day."
135. I like to accept the leadership of people I respect.

136. When I don't like someone, I feel I should tell them so honestly.
137. I want my friends really to show me that they like me a lot.
138. When I do not like someone, I feel I should not show it.
139. To keep from hurting someone's feelings, I believe a white lie is justified.
140. I do not feel a classroom should be filled with conflicting ideas since this will only confuse the students.
141. I feel one should make a decision with logical reasoning rather than on the basis of how one feels about it.
142. If I gave in to my feelings frequently, I would soon get into trouble.
143. I believe that our textbooks should be carefully, but reasonably screened to guard against subversive ideas.
144. I feel that my teachers should present both sides of an issue and have faith in my ability to decide for myself.
145. I believe a mature person is a reasoning person.
146. In order to succeed in the business world at times a man may have to neglect his family life.
147. The fact that I have "willing hands" for work should be more important to an employer than my background and personality.
148. When the teacher criticizes another student it embarrasses me because I know how he feels.
149. Being loyal to one's family traditions is more important than one's success.
150. I prefer deep discussions with a small group to socializing with a large one.
151. Students should be taught to respect the property of others.
152. I dislike changing my plans when I am in the middle of something.
153. I am always careful about my clothes and personal appearance.
154. I feel it is wrong to make fun of people who do stupid things.

155. I want my teacher to help me when I am having trouble.
156. There are times when I feel like talking back to my teachers.
157. I feel that a boy who never fights is a sissy.
158. I feel it is all right to criticize my teachers to my friends, if the teacher deserves it.
159. When my teacher presents both sides of an issue, I feel that she should show which side is right and why.
160. I feel it takes courage to talk back to a teacher.
161. I feel I should at all times be pleasant and agreeable.
162. Always to plan things ahead of time takes a lot of the fun out of them.
163. A position that challenges my ability, holds my interest, and offers opportunity for advancement is what I want after finishing school.
164. I like competition.
165. Alertness, ability, and hard work have more to do with one succeeding than luck, good circumstances, and politics.
166. Not the past, but what I achieve in the future is the important thing.
167. I just cannot respond well to school experiences that are dull to me.
168. When I borrow something I feel I should care for it as though it were mine.
169. I feel that teachers should let me work more on things that interest me.
170. I should work equally hard on all my subjects, not just the ones I like.
171. I feel I should rely on the word of my teacher.
172. If I have wealth I can do nothing better with it than to cultivate art and music in my community.
173. I believe it is a good thing to be always frank, even with my elders.

174. I get impatient when too many questions are asked in class.
175. I had rather be a poor leader than a good follower.
176. I feel the teacher should let me express my ideas without correcting my mistakes in grammar.
177. I try to win the approval of people in authority in my school.
178. Often I try to get my own way.
179. I do not hesitate to get into an argument when matters of principal are involved.
180. I do not care what kind of job I will have if I am successful in it.
181. Before I do something I try to consider how my friends will react.
182. Sometimes I need to rebel against rules and regulations.
183. I believe I have the right to speak my mind.
184. I find it easier to do well if I know specifically what is expected of me.
185. Character should be developed by the home and church; it is the teacher's duty to teach knowledge.
186. When I feel the teacher is unfair I feel like doing the opposite of what she wants.
187. When a club makes a decision, I feel I should help carry it out even though I was originally against it.
188. I feel the acquiring of knowledge and skills is the one major purpose of our schools.
189. I usually try to do what is expected of me.
190. I feel that there is too much permissiveness in our schools.
191. Regardless of what people may think I feel that I should do what I think is right for me.
192. I believe it is better to learn well the assigned material than to try to do too many extra projects and spread myself too thin.

- 193. I feel that I should not let rude people push in front of me in a line.
- 194. Even though I may know that I am right I feel I should give in at times in a discussion in order to avoid an argument.
- 195. I feel the teacher should allow me to express negative feelings in class without getting angry.
- 196. I feel that stealing is as wrong as injuring somebody.
- 197. I do not mind taking directions and being told what to do.
- 198. I feel a teacher should encourage me to make my own decisions.
- 199. I feel I must sacrifice now in order to achieve future success.
- 200. When I am praised I feel more like working.

APPENDIX B

STATISTICAL DATA

Table B. 1

Elementary Teachers' Response Frequencies and Chi Square Values
for Validation and Cross-validation Samples
of the Lowest and Highest 27 Per Cent of Total Scores

Legend: U = Usually agree N = Never agree A = Always agree S = Seldom agree							
Item	Response	Validation		Chi Square P	Cross-validation		Chi Square P
		Lowest 27% N = 27	Highest 27% N = 27		Lowest 27% N = 27	Highest 27% N = 27	
1	U or A	22	25		23	29	.05
	N or S	5	2		4	0	
2	U or A	26	27		23	27	
	N or S	1	0		4	0	
3	U or A	25	27		27	23	.05
	N or S	2	0		0	4	
4	U or A	26	24		24	21	
	N or S	1	3		3	6	
5	U or A	22	26	.09	23	27	.05
	N or S	5	1		4	0	
6	U or A	21	26	.05	14	22	.02
	N or S	6	1		13	5	
7	U or A	19	26	.01	22	26	.09
	N or S	8	1		5	1	
8	U or A	19	27	.002	21	26	.05
	N or S	8	0		6	1	
9	U or A	15	27	.005	22	27	.02
	N or S	12	0		5	0	
10	U or A	20	27	.005	21	26	.05
	N or S	7	0		6	1	
11	U or A	7	12	.12	13	15	
	N or S	20	15		14	12	
12	U or A	8	1	.01	13	5	.02
	N or S	19	26		14	22	
13	U or A	16	24	.01	14	19	.08
	N or S	11	3		13	8	
14	U or A	21	27	.01	23	27	.05
	N or S	6	0		4	0	
15	U or A	26	25		24	26	
	N or S	1	2		3	1	
16	U or A	21	27	.01	24	25	
	N or S	6	0		3	2	

Table B. 1 (continued)

Elementary Teachers' Response Frequencies and Chi Square Values
for Validation and Cross-validation Samples
of the Lowest and Highest 27 Per Cent of Total Scores

Item	Response	Validation		Chi Square P	Cross-validation		Chi Square P
		Lowest 27% N = 27	Highest 27% N = 27		Lowest 27% N = 27	Highest 27% N = 27	
17	U or A	21	27	.01	22	26	.09
	N or S	6	0		5	1	
18	U or A	8	3	.08	5	1	.09
	N or S	19	24		22	26	
19	U or A	15	4	.001	13	4	.008
	N or S	12	23		14	23	
20	U or A	23	27	.05	25	27	
	N or S	4	0		2	0	
21	U or A	22	27	.02	23	27	.05
	N or S	5	0		4	0	
22	U or A	22	26	.09	21	27	.01
	N or S	5	1		6	0	
23	U or A	24	27	.11	22	27	.02
	N or S	3	0		5	0	
24	U or A	26	27		27	27	
	N or S	1	0		0	0	
25	U or A	23	27	.05	26	27	
	N or S	4	0		1	0	
26	U or A	19	27	.002	23	27	.05
	N or S	8	0		4	0	
27	U or A	25	27		24	26	
	N or S	2	0		3	1	
28	U or A	26	27		24	26	
	N or S	1	0		3	1	
29	U or A	7	10		12	8	
	N or S	20	17		15	19	
30	U or A	18	26	.005	24	16	.01
	N or S	9	1		3	11	
31	U or A	12	22	.005	10	21	.004
	N or S	15	5		17	7	
32	U or A	16	24	.01	18	27	.0008
	N or S	11	3		9	0	
33	U or A	14	24	.003	13	19	.08
	N or S	13	3		14	8	
34	U or A	26	21	.05	20	23	
	N or S	1	6		7	4	

Table B.1 (continued)

Elementary Teachers' Response Frequencies and Chi Square Values
for Validation and Cross-validation Samples
of the Lowest and Highest 27 Per Cent of Total Scores

Item	Response	Validation		Chi Square P	Cross-Validation		Chi Square P
		Lowest 27% N = 27	Highest 27% N = 27		Lowest 27% N = 27	Highest 27% N = 27	
35	U or A	19	27	.002	24	16	.01
	N or S	8	0		3	11	
36	U or A	19	26	.01	22	27	.02
	N or S	8	1		5	0	
37	U or A	12	12		15	22	.05
	N or S	15	15		12	5	
38	U or A	19	27	.002	25	27	
	N or S	8	0		2	0	
39	U or A	18	27	.0008	19	26	.01
	N or S	9	0		8	1	
40	U or A	13	24	.001	19	26	.01
	N or S	14	3		8	1	
41	U or A	20	27	.005	19	25	.01
	N or S	7	0		8	2	
42	U or A	17	6	.002	7	2	.07
	N or S	10	21		20	25	
43	U or A	15	25	.002	20	26	.02
	N or S	12	2		7	1	
44	U or A	18	25	.01	13	20	.04
	N or S	9	2		14	7	
45	U or A	14	10	.20	18	25	.01
	N or S	13	17		9	2	
46	U or A	23	9	.10	4	5	
	N or S	4	18		23	22	
47	U or A	26	26		24	24	
	N or S	1	1		3	3	
48	U or A	27	22	.02	20	26	.02
	N or S	0	5		7	1	
49	U or A	18	26	.005	20	26	.02
	N or S	9	1		7	1	
50	U or A	10	15	.05	23	9	.10
	N or S	17	12		4	18	
51	U or A	16	25	.004	21	25	
	N or S	11	2		6	2	
52	U or A	11	24	.0002	18	26	.005
	N or S	16	3		9	1	

Table B.1 (continued)

**Elementary Teachers' Response Frequencies and Chi Square Values
for Validation and Cross-validation Samples
of the Lowest and Highest 27 Per Cent of Total Scores**

Item	Response	Validation		Chi Square P	Cross-validation		Chi Square P
		Lowest 27% N = 27	Highest 27% N = 27		Lowest 27% N = 27	Highest 27% N = 27	
53	U or A	9	2	.01	12	6	.07
	N or S	18	25		15	21	
54	U or A	23	27	.05	27	27	
	N or S	4	0		0	0	
55	U or A	13	27	.0006	7	15	.05
	N or S	14	0		17	12	
56	U or A	18	26	.005	18	26	
	N or S	9	1		9	1	
57	U or A	15	1	.0002	15	7	
	N or S	12	26		12	20	
58	U or A	14	18	.20	14	18	
	N or S	13	9		13	9	
59	U or A	18	21		26	27	
	N or S	9	6		1	0	
60	U or A	27	27		27	27	
	N or S	0	0		0	0	
61	U or A	21	24		21	25	
	N or S	6	3		6	2	
62	U or A	16	27	.0001	18	27	.0008
	N or S	11	0		9	0	
63	U or A	18	27	.0008	15	25	.002
	N or S	9	0		12	2	
64	U or A	22	24		16	25	.004
	N or S	5	3		11	2	
65	U or A	10	19	.01	16	24	.01
	N or S	17	8		11	3	
66	U or A	15	25	.002	20	24	
	N or S	12	2		7	3	
67	U or A	18	24	.04	16	27	.0001
	N or S	9	3		11	0	
68	U or A	22	26	.09	18	26	.005
	N or S	5	1		9	1	
69	U or A	26	23	.17	20	27	.005
	N or S	1	4		7	0	
70	U or A	6	1	.05	5	2	
	N or S	21	26		22	25	

Table B.1 (continued)

Elementary Teachers' Response Frequencies and Chi Square Values
for Validation and Cross-validation Samples
of the Lowest and Highest 27 Per Cent of Total Scores

Item	Response	Validation		Chi Square P	Cross-validation		Chi Square P
		Lowest 27% N = 27	Highest 27% N = 27		Lowest 27% N = 27	Highest 27% N = 27	
71	U or A	23	26	.17	26	27	
	N or S	4	1		1	0	
72	U or A	7	7		6	9	
	N or S	20	20		21	18	
73	U or A	16	20	.19	16	19	
	N or S	11	7		11	8	
74	U or A	17	2	.0001	25	10	.0001
	N or S	10	25		2	16	
75	U or A	16	10	.08	12	2	.08
	N or S	11	17		15	20	
76	U or A	17	22	.11	19	19	
	N or S	10	5		8	8	
77	U or A	12	6	.07	7	7	
	N or S	15	21		20	20	
78	U or A	19	15	.19	14	9	
	N or S	8	12		13	18	
79	U or A	7	4		7	2	.07
	N or S	20	23		20	25	
80	U or A	17	26	.002	21	26	.05
	N or S	10	1		6	1	
81	U or A	21	27	.01	23	27	.05
	N or S	6	0		4	0	
82	U or A	11	12		13	15	
	N or S	16	15		14	12	
83	U or A	19	17		16	14	
	N or S	8	10		11	13	
84	U or A	23	27	.05	26	17	.002
	N or S	4	0		1	10	
85	U or A	25	26		24	27	
	N or S	2	1		3	0	
86	U or A	27	26		25	27	
	N or S	0	1		2	0	
87	U or A	9	9		9	10	
	N or S	18	18		18	21	
88	U or A	9	27	.0004	8	23	.0003
	N or S	18	0		19	4	

Table B.1 (continued)

**Elementary Teachers' Response Frequencies and Chi Square Values
for Validation and Cross-validation Samples
of the Lowest and Highest 27 Per Cent of Total Scores**

Item	Response	Validation		Chi Square P	Cross-validation		Chi Square P
		Lowest 27% N = 27	Highest 27% N = 27		Lowest 27% N = 27	Highest 27% N = 27	
89	U or A	9	8		14	8	.08
	N or S	18	19		13	19	
90	U or A	17	25	.009	21	27	.01
	N or S	10	2		6	0	
91	U or A	15	7	.02	13	7	.07
	N or S	12	20		14	20	
92	U or A	25	27		25	27	
	N or S	2	0		2	0	
93	U or A	23	25		18	26	.005
	N or S	4	2		9	1	
94	U or A	15	25	.002	16	22	.06
	N or S	12	2		11	5	
95	U or A	13	24	.02	21	26	.05
	N or S	10	3		6	1	
96	U or A	19	23	.16	16	23	.03
	N or S	8	4		11	4	
97	U or A	23	27	.05	25	17	.009
	N or S	4	0		2	10	
98	U or A	18	27	.008	21	27	.02
	N or S	9	0		5	0	
99	U or A	24	27	.11	26	27	
	N or S	3	0		1	0	
100	U or A	22	26	.09	24	18	.04
	N or S	5	1		3	9	
101	U or A	23	22		25	26	
	N or S	4	5		2	1	
102	U or A	13	7	.07	14	15	
	N or S	14	20		13	12	
103	U or A	12	3	.006	10	1	.002
	N or S	15	24		17	26	
104	U or A	14	19	.13	14	26	.0001
	N or S	13	8		13	1	
105	U or A	18	26	.005	21	13	.0006
	N or S	9	1		6	14	
106	U or A	17	2	.0001	15	1	.0002
	N or S	10	25		12	26	

Table B.1 (continued)

Elementary Teachers' Response Frequencies and Chi Square Values
for Validation and Cross-validation Samples
of the Lowest and Highest 27 Per Cent of Total Scores

Item	Response	Validation			Cross-validation		
		Lowest 27% N = 27	Highest 27% N = 27	Chi Square P	Lowest 27% N = 27	Highest 27% N = 27	Chi Square P
107	U or A	24	27	.11	22	24	
	N or S	3	0		5	3	
108	U or A	21	5	.0001	11	6	
	N or S	6	22		16	21	
109	U or A	17	27	.0003	21	27	.04
	N or S	10	0		6	0	
110	U or A	13	26	.0006	23	26	
	N or S	14	1		4	1	
111	U or A	23	27	.05	23	27	.05
	N or S	4	0		4	0	
112	U or A	12	4	.01	18	2	.0005
	N or S	15	23		9	25	
113	U or A	17	26	.002	18	2	.01
	N or S	10	1		9	25	
114	U or A	9	7		14	8	.08
	N or S	18	20		13	19	
115	U or A	14	6	.02	18	12	.08
	N or S	13	21		9	15	
116	U or A	8	2	.03	7	27	.005
	N or S	19	25		20	0	
117	U or A	25	27		27	27	
	N or S	2	0		0	0	
118	U or A	16	27	.0001	10	25	.0001
	N or S	11	0		17	2	
119	U or A	16	25	.004	11	22	.002
	N or S	11	2		16	5	
120	U or A	18	25	.01	24	27	
	N or S	9	2		3	0	
121	U or A	13	20	.04	20	27	.005
	N or S	14	7		7	0	
122	U or A	21	23		19	26	.01
	N or S	6	4		8	1	
123	U or A	25	27		21	27	.02
	N or S	2	0		5	0	
124	U or A	14	6	.02	12	5	.05
	N or S	13	21		15	22	

Table B.1 (continued)

**Elementary Teachers' Response Frequencies and Chi Square Values
for Validation and Cross-validation Samples
of the Lowest and Highest 27 Per Cent of Total Scores**

Item	Response	Validation		Chi Square P	Cross-validation		Chi Square P
		Lowest 27% N = 27	Highest 27% N = 27		Lowest 27% N = 27	Highest 27% N = 27	
125	U or A	18	18		18	16	
	N or S	9	9		9	11	
126	U or A	27	23	.05	26	27	
	N or S	0	4		1	0	
127	U or A	9	5	.17	12	2	.002
	N or S	18	22		15	25	
128	U or A	26	23	.17	24	19	.08
	N or S	1	4		3	8	
129	U or A	27	25		24	26	
	N or S	0	2		3	1	
130	U or A	22	22		24	26	
	N or S	5	5		3	1	
131	U or A	14	7	.01	19	8	.002
	N or S	13	20		8	19	
132	U or A	21	25	.12	21	27	.01
	N or S	6	2		6	0	
133	U or A	25	24		24	25	
	N or S	2	3		3	2	
134	U or A	27	24	.11	25	26	
	N or S	0	3		2	1	
135	U or A	24	20	.14	21	20	
	N or S	3	7		6	7	
136	U or A	17	26	.002	19	25	.03
	N or S	10	1		8	2	
137	U or A	4	8	.16	7	7	
	N or S	23	19		20	20	
138	U or A	21	26	.05	22	27	.02
	N or S	6	1		5	0	
139	U or A	14	19	.13	19	17	
	N or S	13	8		8	10	
140	U or A	11	22	.002	16	23	.03
	N or S	16	5		11	4	
141	U or A	20	12	.02	22	18	
	N or S	7	15		5	9	
142	U or A	13	10		15	10	
	N or S	14	17		12	17	

Table B.1 (continued)

**Elementary Teachers' Response Frequencies and Chi Square Values
for Validation and Cross-validation Samples
of the Lowest and Highest 27 Per Cent of Total Scores**

Item	Response	Validation		Chi Square P	Cross-validation		Chi Square P
		Lowest 27% N = 27	Highest 27% N = 27		Lowest 27% N = 27	Highest 27% N = 27	
143	U or A	14	24	.003	15	25	.002
	N or S	13	3		12	2	
144	U or A	17	23	.05	20	25	.07
	N or S	10	4		7	2	
145	U or A	8	10		6	8	
	N or S	19	17		21	19	
146	U or A	6	2	.12	12	4	.01
	N or S	21	25		15	23	
147	U or A	25	24		20	26	.02
	N or S	2	3		7	1	
148	U or A	19	25	.03	21	26	.05
	N or S	18	2		6	1	
149	U or A	21	25	.12	21	25	
	N or S	6	2		6	2	
150	U or A	26	27		26	26	
	N or S	1	0		1	1	
151	U or A	10	9		12	7	.03
	N or S	17	18		15	20	
152	U or A	13	23	.004	20	25	.07
	N or S	14	4		7	2	
153	U or A	24	17	.02	23	13	.004
	N or S	3	10		4	14	
154	U or A	20	7	.005	22	27	.02
	N or S	7	20		5	0	
155	U or A	24	21		23	24	
	N or S	3	6		4	3	
156	U or A	26	27		26	27	
	N or S	1	0		1	0	
157	U or A	17	25	.009	17	25	.009
	N or S	10	2		10	2	
158	U or A	19	19		24	20	
	N or S	8	8		3	7	

Table B. 2

Secondary Teachers' Response Frequencies and Chi Square Values
for Validation and Cross-validation Samples
of the Lowest and Highest 27 Per Cent of Total Scores

Legend: U = Usually agree S = Seldom agree A = Always agree N = Never agree							
Item	Response	Validation		Chi Square P	Cross-validation		Chi Square P
		Lowest 27% N = 27	Highest 27% N = 27		Lowest 27% N = 27	Highest 27% N = 27	
1	U or A	24	25		25	23	
	S or N	3	2		2	4	
2	U or A	25	27		24	24	.01
	S or N	2	0		3	3	
3	U or A	19	27	.002	25	18	
	S or N	8	0		2	9	
4	U or A	21	27	.01	25	25	
	S or N	6	0		2	2	
5	U or A	18	23	.10	23	27	.05
	S or N	9	4		4	0	
6	U or A	22	27	.02	20	27	.005
	S or N	5	0		7	0	
7	U or A	19	24	.08	23	27	.05
	S or N	8	3		4	0	
8	U or A	19	27	.002	22	27	.02
	S or N	8	0		5	0	
9	U or A	18	26	.005	12	25	.0001
	S or N	9	1		15	2	
10	U or A	22	26	.09	20	25	.006
	S or N	5	1		7	2	
11	U or A	10	16	.08	8	6	
	S or N	17	11		19	21	
12	U or A	16	5	.002	11	1	.001
	S or N	11	22		16	26	
13	U or A	20	26	.02	20	27	.005
	S or N	7	1		7	0	
14	U or A	21	27	.01	22	26	.09
	S or N	6	0		5	1	
15	U or A	26	23	.17	24	25	
	S or N	1	4		3	2	
16	U or A	24	27	.11	20	24	
	S or N	3	0		7	3	

Table B. 2 (continued)

Secondary Teachers' Response Frequencies and Chi Square Values
for Validation and Cross-validation Samples
of the Lowest and Highest 27 Per Cent of Total Scores

Item	Response	Validation		Chi Square P	Cross-validation		Chi Square P
		Lowest 27% N = 27	Highest 27% N = 27		Lowest 27% N = 27	Highest 27% N = 27	
17	U or A	22	26	.09	21	27	.01
	S or N	5	1		6	0	
18	U or A	7	12	.12	13	25	.0003
	S or N	20	15		14	2	
19	U or A	17	8	.01	13	5	.02
	S or N	10	19		14	22	
20	U or A	26	27		25	27	
	S or N	1	0		2	0	
21	U or A	18	23	.10	22	27	.02
	S or N	9	4		5	0	
22	U or A	24	26		20	27	
	S or N	3	1		7	0	
23	U or A	22	26	.11	20	26	.02
	S or N	5	1		7	1	
24	U or A	26	27		26	27	.005
	S or N	1	0		1	0	
25	U or A	21	27	.01	23	27	.05
	S or N	6	0		4	0	
26	U or A	21	27	.01	19	27	.002
	S or N	6	0		8	0	
27	U or A	22	27	.02	21	27	.01
	S or N	5	0		6	0	
28	U or A	20	26	.02	23	27	.05
	S or N	7	1		4	0	
29	U or A	10	11		12	10	
	S or N	17	16		15	17	
30	U or A	22	26	.09	21	27	.01
	S or N	5	1		6	0	
31	U or A	13	16		17	18	
	S or N	14	11		10	9	
32	U or A	14	23	.008	14	22	.02
	S or N	13	4		13	5	
33	U or A	14	22	.02	19	26	.01
	S or N	13	5		8	1	
34	U or A	19	26	.01	20	26	.02
	S or N	8	1		7	1	

Table B. 2 (continued)

Secondary Teachers' Response Frequencies and Chi Square Values
for Validation and Cross-validation Samples
of the Lowest and Highest 27 Per Cent of Total Scores

Item	Response	Validation		Chi Square P	Cross-validation		Chi Square P
		Lowest 27% N = 27	Highest 27% N = 27		Lowest 27% N = 27	Highest 27% N = 27	
35	U or A	22	27	.02	19	26	.01
	S or N	5	0		8	1	
36	U or A	22	26	.17	19	26	.01
	S or N	5	1		8	1	
37	U or A	17	22	.11	11	14	
	S or N	10	5		16	13	
38	U or A	22	26	.09	24	27	
	S or N	5	1		3	0	
39	U or A	18	27	.0008	23	27	.05
	S or N	9	0		4	0	
40	U or A	13	25	.0003	25	14	.0008
	S or N	14	2		2	13	
41	U or A	17	26	.002	16	26	.001
	S or N	10	1		11	1	
42	U or A	9	4	.02	16	7	.01
	S or N	18	23		11	20	
43	U or A	16	21	.12	18	12	.08
	S or N	11	6		9	15	
44	U or A	12	18	.08	5	25	.0002
	S or N	15	9		22	2	
45	U or A	17	23	.05	16	25	.004
	S or N	10	4		11	2	
46	U or A	15	21	.07	11	7	
	S or N	12	6		16	20	
47	U or A	22	24		24	22	
	S or N	5	3		3	5	
48	U or A	22	27	.02	17	26	.0001
	S or N	5	0		10	1	
49	U or A	20	26	.02	12	6	.07
	S or N	7	1		15	21	
50	U or A	14	6	.02	12	7	
	S or N	13	21		15	20	
51	U or A	19	24	.08	21	27	.01
	S or N	8	3		6	0	
52	U or A	14	22	.02	9	2	.01
	S or N	13	5		18	25	

Table B. 2 (continued)

Secondary Teachers' Response Frequencies and Chi Square Values
for Validation and Cross-validation Samples
of the Lowest and Highest 27 Per Cent of Total Scores

Item	Response	Validation		Chi Square P	Cross-validation		Chi Square P
		Lowest 27% N = 27	Highest 27% N = 27		Lowest 27% N = 27	Highest 27% N = 27	
53	U or A	14	10	.20	11	4	.03
	S or N	13	17		16	23	
54	U or A	23	27	.05	25	27	
	S or N	4	0		2	0	
55	U or A	15	7	.02	17	23	.05
	S or N	12	20		10	4	
56	U or A	18	23	.10	18	24	.04
	S or N	9	4		9	3	
57	U or A	11	6	.12	13	4	.008
	S or N	16	21		14	23	
58	U or A	17	18		15	21	.07
	S or N	10	9		12	6	
59	U or A	20	7	.005	20	26	.02
	S or N	7	20		7	1	
60	U or A	25	18	.01	27	22	.02
	S or N	2	9		0	5	
61	U or A	23	24		17	25	.009
	S or N	4	3		10	2	
62	U or A	19	25	.03	20	25	.09
	S or N	8	2		7	2	
63	U or A	18	24	.04	18	24	.04
	S or N	9	3		9	3	
64	U or A	19	27	.002	23	26	
	S or N	8	0		4	1	
65	U or A	16	21	.12	15	24	.006
	S or N	11	6		12	3	
66	U or A	15	24	.006	17	24	.02
	S or N	12	3		10	3	
67	U or A	19	24	.08	18	25	.01
	S or N	8	3		9	2	
68	U or A	16	27	.0001	23	26	
	S or N	11	0		4	1	
69	U or A	22	27	.02	20	25	.07
	S or N	5	0		7	2	
70	U or A	4	1	.17	9	3	.04
	S or N	23	26		18	24	

Table B. 2 (continued)

Secondary Teachers' Response Frequencies and Chi Square Values
for Validation and Cross-validation Samples
of the Lowest and Highest 27 Per Cent of Total Scores

Item	Response	Validation		Chi Square P	Cross-validation		Chi Square P
		Lowest 27% N = 27	Highest 27% N = 27		Lowest 27% N = 27	Highest 27% N = 27	
71	U or A	24	26		23	25	
	S or N	3	1		4	2	
72	U or A	9	8		6	6	
	S or N	18	19		21	21	
73	U or A	20	16	.19	19	18	
	S or N	7	11		8	9	
74	U or A	17	27	.0003	17	24	.02
	S or N	10	0		10	3	
75	U or A	15	5	.0005	21	26	.05
	S or N	12	22		6	1	
76	U or A	22	22		16	21	
	S or N	5	5		11	6	
77	U or A	6	2	.12	10	3	.02
	S or N	21	25		17	24	
78	U or A	10	18	.02	20	27	.005
	S or N	17	9		7	0	
79	U or A	6	4		6	2	
	S or N	21	23		21	25	
80	U or A	20	25	.07	18	27	.008
	S or N	7	2		9	0	
81	U or A	11	19	.02	22	26	.09
	S or N	16	8		5	1	
82	U or A	17	19		17	17	
	S or N	10	8		10	10	
83	U or A	23	27	.05	15	13	
	S or N	4	0		12	14	
84	U or A	24	26	.17	22	27	.02
	S or N	3	1		5	0	
85	U or A	21	27		27	27	
	S or N	6	0		0	0	
86	U or A	21	24		24	27	
	S or N	6	3		3	0	
87	U or A	13	14		17	16	
	S or N	14	13		10	11	
88	U or A	11	18	.05	8	23	.0003
	S or N	16	9		19	4	

Table B.2 (continued)

Secondary Teachers' Response Frequencies and Chi Square Values
for Validation and Cross-validation Samples
of the Lowest and Highest 27 Per Cent of Total Scores

Item	Response	Validation		Chi Square P	Cross-validation		Chi Square P
		Lowest 27% N = 27	Highest 27% N = 27		Lowest 27% N = 27	Highest 27% N = 27	
89	U or A	9	7		13	11	
	S or N	18	20		14	16	
90	U or A	16	24	.01	20	27	.005
	S or N	11	3		7	0	
91	U or A	14	9	.13	14	7	.04
	S or N	13	18		13	20	
92	U or A	24	27	.11	25	27	
	S or N	3	0		2	0	
93	U or A	23	21		22	25	
	S or N	4	6		5	2	
94	U or A	14	24	.003	17	26	.002
	S or N	13	3		10	1	
95	U or A	18	25	.01	20	25	.07
	S or N	9	2		7	2	
96	U or A	18	21		11	19	.02
	S or N	9	6		16	8	
97	U or A	22	26	.09	23	26	
	S or N	5	1		4	1	
98	U or A	15	26	.004	20	25	.07
	S or N	12	1		7	2	
99	U or A	24	26		22	26	.09
	S or N	3	1		5	1	
100	U or A	18	25	.01	16	26	.002
	S or N	9	2		11	1	
101	U or A	25	21	.12	24	22	
	S or N	2	6		3	5	
102	U or A	13	10		17	12	
	S or N	14	17		10	15	
103	U or A	6	1	.05	5	27	.0000
	S or N	21	26		22	0	
104	U or A	11	22	.002	14	22	.02
	S or N	16	5		13	5	
105	U or A	8	14	.08	16	25	.004
	S or N	19	13		11	2	
106	U or A	16	6	.005	17	5	.0009
	S or N	11	21		10	22	



Table B. 2 (continued)

Secondary Teachers' Response Frequencies and Chi Square Values
for Validation and Cross-validation Samples
of the Lowest and Highest 27 Per Cent of Total Scores

Item	Response	Validation			Cross-validation		
		Lowest 27% N = 27	Highest 27% N = 27	Chi Square P	Lowest 27% N = 27	Highest 27% N = 27	Chi Square P
107	U or A	22	27	.02	20	26	.02
	S or N	5	0		7	1	
108	U or A	18	11	.05	18	4	.0001
	S or N	9	16		9	23	
109	U or A	19	24	.08	19	25	.03
	S or N	8	3		8	2	
110	U or A	16	25	.004	15	26	.0004
	S or N	11	2		12	1	
111	U or A	22	25		23	25	
	S or N	5	2		4	2	
112	U or A	14	7	.04	16	5	.0006
	S or N	13	20		11	22	
113	U or A	12	26	.002	15	25	.002
	S or N	15	1		12	2	
114	U or A	12	7	.12	9	4	.10
	S or N	15	20		18	23	
115	U or A	12	11		20	9	.002
	S or N	15	16		7	18	
116	U or A	15	2	.0001	13	0	.0001
	S or N	12	25		14	27	
117	U or A	19	27	.002	25	27	
	S or N	8	0		2	0	
118	U or A	16	26	.001	13	24	.001
	S or N	11	1		14	3	
119	U or A	19	22		17	22	
	S or N	8	5		10	5	
120	U or A	15	27	.0005	24	24	
	S or N	12	0		3	3	
121	U or A	19	17		18	21	
	S or N	8	10		9	6	
122	U or A	19	23	.16	24	21	
	S or N	8	4		3	6	
123	U or A	23	27	.05	27	23	.05
	S or N	4	0		0	4	
124	U or A	17	5	.0009	12	3	.006
	S or N	10	22		15	24	

Table B.2 (continued)

Secondary Teachers' Response Frequencies and Chi Square Values
for Validation and Cross-validation Samples
of the Lowest and Highest 27 Per Cent of Total Scores

Item	Response	Validation		Chi Square P	Cross-validation		Chi Square P
		Lowest 27% N = 27	Highest 27% N = 27		Lowest 27% N = 27	Highest 27% N = 27	
125	U or A	15	17		19	15	
	S or N	12	10		8	12	
126	U or A	24	27	.11	22	27	.02
	S or N	3	0		5	0	
127	U or A	11	3	.01	7	2	.07
	S or N	16	24		20	25	
128	U or A	21	19		19	23	
	S or N	6	8		8	4	
129	U or A	23	26	.17	21	27	.01
	S or N	4	1		6	0	
130	U or A	22	23		21	24	
	S or N	5	4		6	3	
131	U or A	20	14	.07	13	11	
	S or N	7	13		14	16	
132	U or A	25	24		20	25	.07
	S or N	2	3		7	2	
133	U or A	25	21	.12	23	22	
	S or N	2	6		4	5	
134	U or A	26	22	.09	27	23	.05
	S or N	1	5		0	4	
135	U or A	23	19	.16	19	21	
	S or N	4	8		8	6	
136	U or A	20	25	.07	22	25	
	S or N	7	2		5	2	
137	U or A	7	9		8	6	
	S or N	20	18		19	21	
138	U or A	23	26	.17	23	25	
	S or N	4	1		4	2	
139	U or A	19	14	.13	19	27	.002
	S or N	8	13		8	0	
140	U or A	20	20		15	17	
	S or N	7	7		12	10	
141	U or A	20	17		21	21	
	S or N	7	10		6	6	
142	U or A	18	8	.006	27	22	.02
	S or N	9	19		0	5	

Table B. 2 (continued)

Secondary Teachers' Response Frequencies and Chi Square Values
for Validation and Cross-validation Samples
of the Lowest and Highest 27 Per Cent of Total Scores

Item	Response	Validation		Chi Square P	Cross-validation		Chi Square P
		Lowest 27% N = 27	Highest 27% N = 27		Lowest 27% N = 27	Highest 27% N = 27	
143	U or A	20	27	.005	20	25	.07
	S or N	7	0		7	2	
144	U or A	15	25	.002	18	10	.10
	S or N	12	2		9	17	
145	U or A	12	8	.19	12	7	
	S or N	15	19		15	20	
146	U or A	9	8		10	9	
	S or N	18	19		17	18	
147	U or A	23	25		24	25	
	S or N	4	2		3	2	
148	U or A	25	26		24	24	
	S or N	2	1		3	3	
149	U or A	17	27	.0003	21	26	.05
	S or N	10	0		6	1	
150	U or A	27	27		27	25	
	S or N	0	0		0	2	
151	U or A	17	11	.08	10	16	.06
	S or N	10	16		17	11	
152	U or A	14	18	.20	17	21	
	S or N	13	9		10	6	
153	U or A	21	16	.12	22	15	.08
	S or N	6	11		5	10	
154	U or A	25	25		22	27	.02
	S or N	2	2		5	0	
155	U or A	23	25		25	22	
	S or N	4	2		2	5	
156	U or A	24	27	.11	26	27	
	S or N	3	0		1	0	
157	U or A	17	24	.02	17	25	.009
	S or N	10	3		10	2	
158	U or A	19	21		18	23	.10
	S or N	8	6		9	4	

Table B. 3

**Elementary and Secondary Teachers' Response Chi Square
Probability Values for Validation and Cross-validation Samples
for Each Discriminating Item***

Item	Validation	Cross-validation
	Chi Square Probability Item Discriminates Between Elementary (N = 100) and Secondary Teachers (N = 100)	Chi Square Probability Item Discriminates Between Elementary (N = 100) and Secondary Teachers (N = 100)
1	.04	.42
2	.21	.06
3	.58	.11
4	.59	.59
5	.18	.008
6	.22	.21
7	.37	.12
8	.02	.50
9	.50	.20
10	.30	.004
11	.56	.35
12	.50	.50
13	.18	.50
14	.37	.22
15	.28	.31
16	.63	.36
17	.60	.50
18	.16	.28
19	.37	.20
20	.42	.50
21	.19	.09
22	.44	.56
23	.23	.01
24	.12	.42
25	.29	.21
26	.33	.50
27	.40	.50
28	.31	.15
29	.08	.19
30	.37	.15
31	.15	.16

*The electronic computer at Michigan State University was changed before this program was run. The new computer did not give the chi squares, only the probability levels.

Table B. 3 (continued)

**Elementary and Secondary Teachers' Response Chi Square
Probability Values for Validation and Cross-validation Samples
for Each Discriminating Item**

Item	Validation	Cross-validation
	Chi Square Probability Item Discriminates Between Elementary (N = 100) and Secondary Teachers (N = 100)	Chi Square Probability Item Discriminates Between Elementary (N = 100) and Secondary Teachers (N = 100)
32	.50	.23
33	.44	.004
34	.58	.22
35	.50	.18
36	.15	.50
37	.22	.50
38	.50	.24
39	.38	.43
40	.001	.50
41	.30	.28
42	.37	.32
43	.24	.10
44	.25	.42
45	.19	.33
46	.18	.50
47	.35	.35
48	.57	.43
49	.33	.16
50	.11	.09
51	.50	.17
52	.42	.003
53	.09	.18
54	.01	.36
55	.12	.01
56	.02	.04
57	.03	.11
58	.29	.50
59	.23	.19
60	.21	.50
61	.27	.23
62	.50	.20
63	.09	.50
64	.19	.43
65	.61	.24
66	.27	.25

Table B. 3 (continued)

**Elementary and Secondary Teachers' Response Chi Square
Probability Values for Validation and Cross-validation Samples
for Each Discriminating Item**

Item	Validation	Cross-validation
	Chi Square Probability Item Discriminates Between Elementary (N = 100) and Secondary Teachers (N = 100)	Chi Square Probability Item Discriminates Between Elementary (N = 100) and Secondary Teachers (N = 100)
67	.03	.04
68	.42	.05
69	.50	.25
70	.50	.22
71	.22	.32
72	.22	.50
73	.44	.28
74	.50	.50
75	.42	.09
76	.60	.02
77	.21	.14
78	.08	.29
79	.18	.006
80	.55	.07
81	.15	.17
82	.36	.27
83	.50	.17
84	.44	.37
85	.50	.26
86	.22	.37
87	.26	.02
88	.02	.18
89	.16	.38
90	.38	.23
91	.32	.09
92	.21	.37
93	.24	.33
94	.50	.39
95	.26	.43
96	.13	.27
97	.38	.16
98	.02	.36
99	.50	.09
100	.50	.32
101	.50	.32

Table B. 3 (continued)

**Elementary and Secondary Teachers' Response Chi Square
Probability Values for Validation and Cross-validation Samples
for Each Discriminating Item**

Item	Validation	Cross-validation
	Chi Square Probability Item Discriminates Between Elementary (N = 100) and Secondary Teachers (N = 100)	Chi Square Probability Item Discriminates Between Elementary (N = 100) and Secondary Teachers (N = 100)
102	.21	.50
103	.02	.01
104	.32	.24
105	.43	.20
106	.23	.36

Table B, 4

Percentage of Agreement of the Sample
Groups with Each Item of the ISVI

Legend: S_1 Elementary Validation Sample S_2 Secondary Validation Sample S_3 Elementary Cross-validation Sample S_4 Secondary Cross-validation Sample				
Statement	Percentage of Sample Agreement			
	S_1	S_2	S_3	S_4
1	88	78	85	83
2	90	94	97	91
3	87	87	93	87
4	90	90	90	90
5	93	89	83	88
6	25	28	28	20
7	74	86	88	89
8	93	92	95	91
9	93	90	92	78
10	25	25	17	20
11	40	39	32	31
12	92	96	97	96
13	94	96	98	95
14	92	95	92	89
15	96	96	95	97
16	93	93	95	96
17	88	93	95	92
18	94	96	95	91
19	81	83	83	84
20	67	65	68	68
21	67	61	62	77
22	87	80	84	86
23	91	94	94	90
24	85	88	90	91
25	90	92	97	96
26	71	75	81	74
27	93	86	90	85
28	27	30	38	46
29	80	73	78	71
30	61	62	61	55
31	66	68	70	72

Table B.4 (continued)

Percentage of Agreement of the Sample
Groups with Each Item of the ISVI

Statement	Percentage of Sample Agreement			
	S ₁	S ₂	S ₃	S ₄
32	86	86	90	88
33	83	84	85	80
34	45	37	30	35
35	81	86	91	86
36	70	71	79	78
37	32	35	33	32
38	80	85	90	85
39	76	80	81	85
40	27	30	35	31
41	100	98	99	95
42	79	74	82	80
43	63	56	65	61
44	64	71	75	76
45	80	83	85	82
46	84	84	81	78
47	89	86	88	92
48	12	11	15	21
49	82	84	83	79
50	48	38	37	38
51	27	13	24	21
52	93	84	94	88
53	94	91	92	93
54	57	51	53	48
55	83	82	87	88
56	40	35	35	41
57	72	73	72	78
58	78	86	90	91
59	81	75	77	79
60	94	94	97	94
61	87	83	90	86
62	17	19	19	10
63	61	62	72	67
64	82	81	86	81
65	36	30	33	37
66	93	89	88	89
67	48	46	48	43
68	84	85	86	85
69	81	79	86	78

Table B. 4 (continued)

Percentage of Agreement of the Sample
Groups with Each Item of the ISVI

Statement	Percentage of Sample Agreement			
	S ₁	S ₂	S ₃	S ₄
70	93	93	98	91
71	26	32	30	38
72	82	73	82	78
73	43	43	51	52
74	20	27	15	22
75	80	77	71	66
76	75	74	66	73
77	63	65	68	71
78	95	94	93	96
79	30	36	32	29
80	29	24	30	17
81	88	76	83	77
82	97	93	95	93
83	60	57	56	50
84	91	86	90	91
85	90	94	94	96
86	80	75	81	86
87	91	92	93	91
88	67	72	74	76
89	68	76	71	66
90	43	46	43	51
91	78	89	79	76
92	75	74	86	78
93	29	28	31	35
94	88	87	90	91
95	87	82	91	90
96	66	62	74	70
97	78	76	74	78
98*	83	78	82	78
99*	84	78	85	70
100*	55	48	51	61
101*	87	93	92	85
102*	58	49	50	67
103*	83	93	94	86
104*	91	86	84	86
105*	36	29	37	30
106*	42	57	36	52

*Items that did not cross-validate.

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