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ABSTRACT

The purpose of this study is to investigate the relationships between the two basic factors, progressivism and traditionalism, that underlie attitudes toward education and the range of behavioral objectives which teachers consider important for student achievement. The research involves a measure of teacher attitudes toward education and a valuation of behavioral objectives in both cognitive and affective domains representing all levels of those objectives in the social studies. One hundred and forty fourth, fifth, and sixth grade teachers in Michigan, interested in the use of behavioral objectives, participated. Analysis of the data suggests that (1) a significant relationship exists between a progressive attitude toward education and a high valuation for the highest level affective behavior; (2) there is little evidence of a strong relationship between attitude and valuations in the cognitive domain; and (3) a positive relationship exists between a progressive attitude and a greater number of graduate hours in social studies. Implications for inservice training of teachers should be drawn by those interested in implementing objectives in the affective domain. (JH)

RESEARCH REPORT*

TEACHER ATTITUDES TOWARD EDUCATION AND THE RATINGS GIVEN TO SELECTED BEHAVIORAL OBJECTIVES

by

Larry G. Carter

1974

*Based on Chapters I, III, IV, and V of "The Relationship Between Teacher Attitudes Toward Education and Teacher Ratings of Selected Behavioral Objectives for Elementary Social Studies." Doctoral Thesis. (Unpublished) The University of Michigan, 1974

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CHAPTER I

STATEMENT OF THE PROBLEM

Background of the Study

Stating the goals and purposes of education by educators, professional organizations, governmental commissions, and curriculum committees has long been considered an important facet of educational planning. In most cases, however, these statements have been in terms so general as to be almost meaningless in providing direction for instructional planning (Lindvall, 1964).

In an attempt to translate the broad goals of education into usable and meaningful guidelines for instructional decision-making, educators; such as Bloom (1956), Gagné (1965a), Glaser (1965), Lindvall (1964), Mager (1962), Popham (1969a), and Tyler (1950), advocate the use of measurable behavioral objectives.

> Since the early 1960's, however, a development of major significance has been underway regarding the statement of instructional goals. Perhaps because of the pioneering work in programed instruction or because of general turn toward technology in our country, whatever the reason, educators have been urged since that time to describe their objectives, not in the customary vague manner, but in terms of measurable learner behavior. In our view this development is one of the most important educational advances of the 1900's and signals a very significant attack upon the problems of education. (Popham and Baker, 1970, pp. 19-20)

However, not all educators agree with those who advocate the use of behavioral objectives. The following, Combs (1972), Doll, W. (1972), Ebel (1967), Eisner (1967a), Kneller (1962), and MacDonald and Wolfson (1970), among others, have questioned the desirability and value of instructional programs based on precise statements of objectives.

Whether or not one agrees that the stating of educational objectives in behavioral terms is desirable, behavioral objectives are being written and widely used as the basis for instructional planning. Fourteen states presently have educational accountability models in force with behavioral objectives as their base and twelve more states have legislation pending (Lessinger, 1973). Several school systems have incorporated behavioral objectives into their curricula (Berger, 1970; Esbensen, 1967; Flanagan, Mager, and Shanner, 1971; Kapfer, 1968; Lieberman, 1971; Lindvall, 1964; Wolfe and Smith, 1968), and banks of behavioral objectives are being established from which a school system or an individual teacher may draw objectives to use in instructional planning (Popham, 1970a; Wininger and Publi over, 1970).

It follows that considerable time, effort, and funds are being invested in the development and use of behaviorally-based instructional programs. As more schooi systems begin to base their instructional programs on measurable behavioral objectives, the need for research on the effects of such programs on all aspects of the educational

system becomes more apparent.

However, there is relatively little research available on those factors involved in the selection of objectives and their use in the classroom, in contrast to the extensive amount of literature on behavioral objectives in general. Baker (1967) stated in her study, "The attempts to gather evidence regarding the effects of behavioral objectives in teaching situations have been rare" (p. 16). Both Geis (1972) and Lapp (1972) in reviewing the literature on behavioral objectives could find very little experimental evidence to support the proposed benefits of using such objectives.

Sullivan (1969) states:

> Obviously, the mere statement of instructional objectives for a course or unit of instruction is of no use in itself. The stated objectives must serve as a referent for planning instruction which leads to their attainment and for evaluating the success of the instructor and of individual learners . . . . There is a definite need for more empirical research data on various procedures in curriculum planning and development. (p. 70)

Lapp (1972) and O'Connell (1971), in particular, provided impetus for this study. Both recommend further research to identify those factors that influence the teacher decision-making process in the selection of specific behavioral objectives.

Purpose of the Study

The purpose of this study is to investigate the relationship between the two basic factors, Progressivism and Traditionalism, that

underlie attitudes toward education; and the range of behavioral objectives teachers consider important for students to achieve.

Specific questions investigated in the study are; when teachers rate a range of behavioral objectives as to how important they are for students to achieve:

1. Is there a relationship between the teacher's attitudes toward education, progressive and traditional, and the importance given to the behavioral objectives in the cognitive domain and those within the affective domain?
2. Is there a relationship between the teacher's attitudes toward education, progressive and traditional, and the importance given to the behavioral objectives at the major taxonomic levels within the cognitive domain and those within the affective domain?

Hypotheses

Stated in the null form the hypotheses tested in the investigation are:

Hypothesis 1: There is no significant difference between teacher attitudes toward education, progressive and traditional, and the importance given to cognitive domain behavioral objectives.

Hypothesis 2: There is no significant difference between teacher attitudes toward education, progressive and traditional, and the importance given to behavioral objectives at each of the major taxonomic levels in the cognitive domain.

H2a: There is no significant difference between teacher attitudes toward education and the importance given to behavioral objectives at the cognitive level of knowledge.

H2b: There is no significant difference between teacher attitudes toward education and the importance given to behavioral objectives at the cognitive level of comprehension.

H2c: There is no significant difference between teacher attitudes toward education and the importance given to behavioral objectives at the cognitive level of application.

H2d: There is no significant difference between teacher attitudes toward education and the importance given to behavioral objectives at the cognitive level of analysis.

H2e: There is no significant difference between teacher attitudes toward education and the importance given to behavioral objectives at the cognitive level of synthesis.

H2f: There is no significant difference between teacher attitudes toward education and the importance given to behavioral objectives at the cognitive level of evaluation.

Hypothesis 3: There is no significant difference between teacher attitudes toward education, progressive and traditional, and the importance given to affective domain behavioral objectives.

Hypothesis 4: There is no significant difference between teacher attitudes toward education, progressive and traditional, and the importance given to behavioral objectives at each of the major taxonomic levels in the affective domain.

H4a: There is no significant difference between teacher attitudes toward education and the importance given to behavioral objectives at the affective level of receiving.

H4b: There is no significant difference between teacher attitudes toward education and the importance given to behavioral objectives at the affective level of responding.

H4c: There is no significant difference between teacher attitudes toward education and the importance given to behavioral objectives at the affective level of valuing.

H4d: There is no significant difference between teacher attitudes toward education and the importance given to behavioral objectives at the affective level of organization.

H4e: There is no significant difference between teacher attitudes toward education and the importance given to behavioral objectives at the affective level of characterization.

Significance of the Study

Tyler (1950) asserts that decisions about educational objectives are the most important because objectives serve as the criteria for all other instructional decisions. If educational objectives form the basis for all other instructional decisions, then the major question for curriculum planners and teachers is: What considerations should be taken into account in the selection of objectives? In response to this question, Tyler (1950) identified five factors: one, needs of learners; two, needs of society; three, subject specialists; four, philosophy; and five, theories of learning. He concluded that: "In the final analysis objectives are matters of choice, and they must therefore be considered value judgments of those responsible for the school" (p. 3). Goodlad, Von Stoephasius, and Klein (1966) take a similar position in

that they assert that objectives are drawn from a value position and that analysis of that position is basic to appropriate statements of objectives.

McNeil (1969), in a review of the literature of those forces that influence curriculum planning and development, identified three broad areas that influence the formulation of instructional objectives: subject matter, society, and the learner. He asserts that all three factors, to varying degrees, influence the stated curricular program of the school.

In addition to the above forces identified by McNeil, the influence of the teacher on the stated curricular program of the school has been recognized. Oliver (1965) contends:

> Regardless of what a curriculum guide states, the teacher makes the final choice as to what will be presented and what emphasis will be given to the content, materials, and activities selected. Consequently, it is important to explore the values of teachers, since they will affect the curriculum-in-operation. (p. 103)

Harnack (1968) places the central forcus of instructional decision-making on the teacher:

> Today professionally speaking, the extreme wealth of theoretical background and factual evidence in professional education indicates the obvious: teachers have a firmer base upon which to make choices for the learner. . . . Therefore, the teacher--especially the teacher--must help to make intelligent decisions related to curriculum planning. His decision, in the main, will revolve about the screening and selection of specific instructional objectives, the identification of centers of interest, the identification and organization of subject matter, the selection of instructional

> techniques and materials, and the selection of measuring devices to help him realize whether or not the objectives were accomplished. (p. 11)

Baker and Popham (1973) agree with Harnack's statement, but add that it is now, more than ever, imperative that educators question the value of desired educational outcomes. They state:

> Recent attention given to the field of instructional psychology argues well for new emphasis on providing teachers with the technical skills they need to accomplish worthwhile educational objectives. But even as we applaud the prospect of more instructionally proficient teachers, we can contemplate the serious problem which such a situation produces. If teachers become more skilled at achieving changes in learners, what kinds of changes should they pursue? Putting it another way, what kinds of goals should our teachers be trying to accomplish? An increase in a teacher's instructional skill makes it more imperative that he or she pursue truly defensable goals. (p. 27)

In addition, a criticism of the use of behavioral objectives has been that "trivial learner behaviors are the easiest to operationalize, hence the really important outcomes of education will be underemphasized" (Popham, 1969b, p. 46). Several educators, Cox (1971), Ebel (1970), Eisner (1969), Eiss (1970), Miles and Robinson (1971), Popham (1969a), and Walbesser (1972), in analyzing sets of behavioral objectives that have been written and used by curriculum planners and teachers, report that the majority of objectives are at the knowledge and comprehension levels of intellectual operations.

Atkin (1968) states:

> Goals are derived from our needs and from our philosophies. They are not and should not be derived primarily from our measures. It borders on the irresponsible for those who exhort us to state objectives in behavioral terms to avoid the issue of determining worth. What the educational community poorly realizes at the moment is that behavioral goals may or may not be worthwhile. They are articulated from among the vast library of goals because they are stated relatively easily. (p. 28)

Responding to the above criticisms, Popham and Baker (1970) contend:

> It is only natural that many examples of operationally stated goals are relatively unimportant. The easiest kinds of behavior to operationalize are the most simple. . . . But the very fact that objectives are stated operationally allows us to identify those which are unimportant and to discard them. (p. 27)

According to Popham and Baker (1970) the process of identifying important objectives is based on two factors; (1) an analysis of the value system of the teacher, and (2) a taxonomic analysis of desired learner behavior. They state:

> One criterion of overriding importance in the selection of instructional objectives is a teacher's value system regarding the content to be treated and the learner behaviors he hopes will emerge in connection with the content. (p. 29)

Although a number of educators have identified the value system of the teacher as being an important factor in selecting and utilizing behavioral objectives, this investigator, in reviewing the literature, did not find any research studies that dealt specifically with this topic. One aspect of a study by O'Connell (1971) dealt with the influence of curricular approach on the selection of instructional objectives by

teachers. He concluded that there was no apparent relationship between curricular approach and the number and level of behavioral objectives selected by the teacher in the cognitive, affective, and psychomotor domains.

In summary, there is a definite need for studies involving the identification of those factors that influence the selection of behavioral objectives by teachers. Investigations concerned with behavioral objectives as they relate to curriculum theory and teacher decision-making are important in improving the actual classroom practices of teachers. Lastly, the scarcity of research in this area has been indicated. Little evidence exists of in-depth studies related to the topic of this investigation.

Definition of Terms

The following definitions indicate the meaning of terms used in this study.

Behavioral Objective: "A behavioral objective is a goal for, or desired outcome of, learning which is expressed in terms of observable behavior or performance of the learner" (Montague and Koran, 1969), p. 10).

Cognitive Domain: defined by Bloom (1956) in the Taxonomy of Educational Objectives, Handbook I: Cognitive Domain, as mental and intellectual processes consisting of six levels. From the least to most complex, the levels are Knowledge, Comprehension, Application,

Analysis, Synthesis, and Evaluation.

Cognitive Objectives: specific mental and intellectual operations, expressed in terms of observable learner behavior. These objectives were classified as to the level within the cognitive domain according to the Taxonomy of Educational Objectives, Handbook I: Cognitive Domain (Bloom, 1956).

Affective Domain: defined by Krathwohl, Bloom, and Masia (1964) in the Taxonomy of Educational Objectives, Handbook II: Affective Domain, as attitude and value processes consisting of five levels. From the least to most complex, the levels are Receiving, Responding, Valuing, Organization and Characterization.

Affective Objectives: specific attitude and value processes expressed in terms of observable learner behavior. These objectives were classified as to the level within the affective domain according to the Taxonomy of Educational Objectives, Handbook II: Affective Domain (Krathwohl, et al., 1964).

Progressivism: identified by Kerlinger (1956, 1958, 1961, 1963, 1967), Kerlinger and Kaya (1959), and Kerlinger and Pedhazur (1967, 1968) as one of two independent dimensions underlying attitudes toward education. Progressive attitudes toward education are positively correlated with person-oriented teacher trait perceptions. A progressive teacher is pupil-oriented with a basic concern for pupil growth, individual differences, pupil interest and motivation, pupil activities

and actual experiences, and a changing curriculum (Kerlinger and Pedhazur, 1967).

Traditionalism: identified by Kerlinger (1956, 1958, 1961, 1963, 1967), Kerlinger and Kaya (1959) and Kerlinger and Pedhazur (1967, 1968) as one of two independent dimensions underlying attitudes toward education. Traditional attitudes toward education are positively correlated with task-oriented teacher trait perceptions. A traditional teacher is one whose basic concern is for subject matter, discipline, truth, intellect, mastery, control, and a changeless curriculum (Kerlinger and Pedhazur, 1967).

Limitations of the Study

The study was conducted within the following limitations:

1. Those teachers who participated in the study were from the central and southeastern sections of the lower peninsula of the state of Michigan.

2. All of the teachers involved in the study were fourth, fifth, or sixth grade teachers.

3. Only those teachers who had some degree of knowledge about behavioral objectives, either by being a workshop participant and/or using behavioral objectives in their teaching, were selected by the investigator to participate in the study.

4. Only behavioral objectives from one curricular area, social studies, were used in the study.

5. The behavioral objectives used in the study were selected, by the investigator, from five published lists of fourth, fifth, and sixth grade social studies behavioral objectives, and were considered to be representative of appropriate objectives for those grade levels.

Summary

The use of behavioral objectives as the basis for instructional decision-making in areas of subject matter selection, learning activities, instructional materials, and evaluative criteria has been advocated by many educators. The lack of empirical data regarding those factors that influence the teacher's decision-making process in the selection of behavioral objectives on which the instructional program is based has been identified.

This study attempts to provide a clearer understanding of those factors that influence the teacher's decision-making process in the selection of behavioral objectives.

CHAPTER II

RESEARCH DESIGN

This chapter, describing the procedures and methodology employed in conducting the study, is divided into five sections; instruments employed in the study; selection of the sample; data collection procedures; tabulation of the data; and data analysis.

Instruments Employed in the Study

Education Scale VI, which measures progressive and traditional attitudes toward education, and Behavioral Objectives: Social Studies - Intermediate, a set of 130 behavioral objectives consisting of both cognitive and affective domain objectives with all major taxonomic levels in both domain represented, were the instruments used to measure teacher attitudes toward education and to identify those behavioral objectives teachers consider important for students to achieve. In addition, each of the participating teachers completed a data sheet that requested biographic information.

Education Scale VI

Education Scale VI is one in a series of instruments developed by Kerlinger (1956, 1958, 1961, 1963, 1967) and Kerlinger and Kaya (1959). The scale yields two basic orthogonal dimensions of educational attitudes; Progressivism A and Traditionalism B. It is a 46-item summated-rating type scale that has 23 A (Progressivism) and

23 B (Traditionalism) items.

The administration and scoring of the scale were carried out according to the procedures recommended by Kerlinger (1969).

Behavioral Objectives: Social Studies-Intermediate

The behavioral objectives used in the study were selected from five published lists of fourth, fifth, and sixth grade social studies objectives. The procedure followed in the selection process involved several operations.

First, as many sets of behavioral objectives as possible were obtained from state departments of education and school districts from across the country. It was hoped that a complete set of objectives, one that contained both cognitive and affective domain objectives and with all levels in both domains represented could be obtained. In all, twenty-three separate sets of objectives were reviewed. However, it was found that the majority of objectives were in the cognitive domain and at the knowledge and comprehension levels of intellectual operations, and only three sets contained affective domain objectives. Therefore, it was decided that the best procedure would be to construct a set of behavioral objectives, selected from published lists, that would be appropriate for this study.

The second step involved the selection and construction of a set of social studies objectives from five published lists which contained both cognitive and affective domain objectives with all levels in both

domains represented.

Cognitive Domain Objectives. These objectives were selected from three sources: Social Studies Behavioral Objectives, A Guide to Individualized Instruction, Flanagan, et al. (1971); Intermediate Social Studies Behavioral Objectives, Lieberman (1970); and Intermediate Social Studies Objectives, Michigan Department of Education (1973).

The selection process involved the following steps:

1. All of the evaluation and synthesis level objectives were identified and arranged according to specific subject area topics.

2. All of the analysis and application level objectives were identified and arranged according to specific subject area topics.

3. All of the topic areas that contained all four levels of objectives; evaluation, synthesis, analysis, and application, were selected to be used in the study.

4. The comprehension and knowledge level objectives were then selected according to the previously identified subject area topics.

5. Each topic area was considered separately, and within each topic objectives were selected that logically related to each other from one level to the next higher level in the domain.

The above procedures resulted in a total of ninety cognitive domain objectives with twenty objectives at each of the three lowest levels; knowledge, comprehension, and application, and ten objectives

at each of the three highest levels; analysis, synthesis, and evaluation. Also, as Table 1 illustrates, these ninety objectives were distributed among eight topic areas.

TABLE 1

TOPIC AREAS OF COGNITIVE DOMAIN OBJECTIVES

Topic Areas	Number of Objectives
Economics	9
History	9
Ecology	10
Political Science	17
World of Work and Leisure-Time Activities	9
Minority Groups	18
Psychology	9
Inquiry Skills	9
Total	90

The original list of cognitive domain objectives is included in Appendix C.

Affective Domain Objectives. These objectives were selected from two sources: Report on the Evaluation Workshop in the Affective Domain, Lieberman (1970), and Taxonomy of Educational Objectives,

Handbook II: Affective Domain, Krathwohl, et al. (1964).

The selection process involved the following steps:

1. All of the intermediate level (grades 4-6) affective domain objectives were selected from the Report on the Evaluation Workshop in the Affective Domain. This resulted in a list that contained objectives from the first four levels; receiving, responding, valuing, and organization, of the affective domain.

2. From the Taxonomy of Educational Objectives, Handbook II: Affective Domain, all of the level five objectives, characterization, were selected.

3. The objectives selected were then arranged according to level within the domain. The third level, valuing, contained ten objectives and the fourth level, organization contained five objectives. Based on this, some of the objectives in the first two levels were discarded in order to equalize the number of objectives at each of the lower three levels, and some of the level five objectives, characterization, were discarded to equalize the number of objectives at the two higher levels.

The above procedures produced a total of forty affective domain objectives with ten objectives at each of the three lower levels; receiving, responding, and valuing, and five objectives at each of the two higher levels; organization and characterization. The list of affective domain objectives is included in Appendix C.

Finally, the last step in the construction of the list of behavioral objectives involved the arrangement of the objectives into an appropriate form for the purpose of the study. Since the purpose of the study was to investigate the relationship between teacher attitudes toward education and the importance given to specific levels of educational objectives, it was decided that the objectives should be randomly arranged. It was felt that by randomly arranging the objectives the respondent would be more likely to consider each objective separately and thus limit the degree of subject area preference. The random arrangement was achieved by writing each objective on a card, placing the cards in a box, and then typing the final list of objectives in the order in which the cards were drawn from the box.

Thus, the final result of the above procedures was a set of 130 behavioral objectives, randomly arranged, consisting of both cognitive and affective domain objectives with all levels in both domains represented. The instructions for responding to the list of objectives, is included in Appendix A.

General Information Questionnaire

The General Information Questionnaire was developed to provide biographic information on the sample studied. The questionnaire contains seventeen items. Items one through three ask for personal information about the respondent; sex, age, and minority group membership. Items four through nine deal with the educational level of the

respondent and the number of undergraduate and graduate credit hours in the area of social studies and professional education courses. Items ten and eleven ask for the number of years of teaching experience at the elementary (K-6) and secondary (7-12) levels. Item twelve asks for the population of the community in which the respondent teaches. Items thirteen through sixteen deal with the type of school, grade levels in the school, current teaching assignment, and the type of school organizational plan. Item seventeen asks for the approximate percentage of minority group students in the respondent's classroom. A copy of the General Information Questionnaire is included in Appendix B.

Selection of the Sample

The sample was selected from a group of teachers who had either participated in a one-day workshop on the writing of behavioral objectives, conducted by the investigator during the 1972-1973 school year, and/or were known, by the investigator, to be attempting to write and use behavioral objectives as the basis for their instructional planning. From this group only later elementary teachers, grades four, five and six, with a minimum of two years of teaching experience were asked to participate in the study.

Thus, the sample was composed of 140 fourth, fifth, and sixth grade teachers from seven school districts in the central and southeastern sections of the lower peninsula of the state of Michigan: One parochial district (The Roman Catholic Diocese of Saginaw), three

suburban districts in the metropolitan Detroit area (Livonia Public Schools, Wayne-Westland Community School District, and Taylor School District), two small cities, population between 10,000 and 50,000 (Jackson Public Schools and Monroe Public Schools) and one small community, population less than 10 000, in the Ann Arbor metropolitan area (Dexter Public Schools).

Data Collection Procedures

The collection of data involved several aspects. The major stages included conducting a pilot study, contracting the appropriate school officials, distributing the materials used in the study, and collecting the data to be analyzed.

A pilot study was conducted to ascertain if respondents would have any problems in completing the research instruments. Twenty teachers, from one of the previously-mentioned school districts, were mailed a complete set of materials along with a personal note asking them to comment on any problems they had in responding to the instruments. Questionnaires were returned by fourteen of the teachers or 70 percent of the pilot group. The questionnaires were completed according to the instructions given. The major problem, which was raised by eight of the teachers or 57 percent of the respondents, was the amount of time involved in evaluating 130 objectives. Based on these comments, the behavioral objectives list was reevaluated to consider if it was possible and/or desirable to shorten the list of objectives. It was

decided, for the purposes of the study, the list of objectives had to contain as many objectives from all levels of both domains as possible, and for this reason the list was not changed. But it was realized that the amount of time required to complete the instrument could lower the number of respondents in the final sample. The teachers who participated in the pilot study were part of the sample that was used in this investigation.

The next step in the collection of data involved contacting the appropriate school officials to obtain permission to conduct the investigation. Since the investigator was familiar with each of the school districts and knew the personnel, this entailed meeting with each of the school officials, principals and/or directors of instruction to review the materials that were to be used in the investigation and to discuss the most acceptable way to contact the teachers. In one of the school districts the director of curriculum distributed the materials to the teachers at a curriculum meeting. In three of the districts the materials were distributed to the teachers by the principals, and in the remaining three districts the materials were mailed to the teachers by the investigator.

The teachers returned the materials that were used in the investigation in the stamped, self-addressed envelopes that had been included in the packages of materials. A second letter was sent to the school officials who had distributed the materials or to the teachers

who had not returned the materials within four weeks.

Questionnaires were returned by ninety-nine teachers or 70.7 percent of the sample. Because of incomplete responses in the measuring instruments, the questionnaires submitted by nine teachers were not used. Therefore, the findings of this investigation were based upon the responses of ninety teachers, which is 64.3 percent of the total group included in the sample.

Tabulation of the Data

The tabulation of the data involved the scoring of Education Scale VI, the recording and ordering of the ratings given to each of the behavioral objectives according to domain and taxonomic level, and the coding of the data for computation.

The scording of Education Scale VI was carried out according to the procedures recommended by Kerlinger (1969). The scale yields three scores; an A (Progressivism) score, a B (Traditionalism) score, and an A minus B score.

As indicated earlier in this section, the A-items measure progressive educational attitudes and the B-items measure traditional educational attitudes. The A minus B scores measure, if positive, the degree of Progressivism, and if negative, the degree of Traditionalism (Kerlinger, 1969). Because of the small number of traditional teachers among the respondents the A minus B score was used in testing the hypotheses. On the basis of the A minus B score the

sample was divided into three groups; "high," "middle," and "low." Thus, by using the A minus B score the data were analyzed according to the degree of progressive and traditional attitudes.

The tabulation of the Behavioral Objectives: Social Studies - Intermediate involved recording the value given to each objective according to the domain and taxonomic level of the objectives. This procedure produced a total cognitive domain score, a total affective domain score, and a score for each taxonomic level in both domains for each respondent.

The analysis of the data involving the total scores for the cognitive and affective domains and the total scores for each taxonomic level within both domains appears in the text; whereas, the analysis of the rating given to each individual objective by the total sample appears in Appendix C.

All of the information from the biographic questionnaire, the attitude scores, the total behavioral objectives scores was punched on IBM cards to be used in The Michigan Data Analysis System (MIDAS). This is a system of data analysis and statistical computing programs which was developed by the Statistical Research Laboratory of The University of Michigan (Fox and Guire, 1973).

Data Analysis

A one-way analysis of variance, F test, was used to determine if there was a significant difference among the mean scores for the

ratings given to all cognitive and affective domain objectives and the ratings for each taxonomic level within both domains by the high, middle, and low teacher attitude groups. In addition, the t test was used to determine if there was a significant difference between each of the three attitude groups and the mean scores for the ratings given to the objectives. All hypotheses were tested in the null form.

The Pearson product - moment correlation was used to determine the degree of relationship between the three teacher attitude scores; the progressive score (A), the traditional score (B), and the A minus B score, and the ratings given to all cognitive and affective domain objectives and the ratings for each taxonomic level within both domains for the total sample and for each of the three teacher attitude groups.

The chi-square test of independence was used to examine the relationships between the biographic variables and the three levels of teacher attitudes toward education.

Only the .05 and .01 levels of significance was reported for the above four statistical tests.

CHAPTER III

PRESENTATION OF THE DATA

The presentation of the data has been divided into five sections: description of the sample; descriptive statistical analysis of the teachers' attitudes toward education; the testing of the four major hypotheses and the eleven sub-hypotheses; the intercorrelations between the ratings given to the behavioral objectives and the teacher attitude scores; and, finally, an examination of the relationships between the biographic variables and the teachers' attitudes toward education.

Description of the Sample

The sample was selected from a group of teachers who had either participated in a one-day workshop on the writing of behavioral objectives, conducted by the investigator during the 1972-1973 school year, and/or were known, by the investigator, to be attempting to write and use behavioral objectives as the basis of their instructional planning. From this group only later elementary teachers, grades four, five, and six, with a minimum of two years of teaching experience, were asked to participate in the study.

Thus, the sample was comprised of thirty fourth grade teachers, thirty-two fifth grade teachers, and twenty-eight sixth grade teachers for a total of ninety. Twenty-five of the teachers were men and sixty-five were women, with the mean number of years of experience being

ten years for the total sample. All of the teachers were certified to teach at the elementary level (K-8). The mean number of undergraduate semester hours in social studies was 36.3, the mean number of graduate semester hours in social studies was 9.4. The mean number of undergraduate semester hours in professional education was 30.2, and the mean number of graduate semester hours in professional education was 17.9. All of the teachers in the sample were from six public school districts and one private school district in the central and southeastern sections of the lower peninsula of the state of Michigan.

Teacher Attitudes Toward Education

Education Scale VI was used to measure progressive and traditional teacher attitudes toward education. As Table 2 illustrates, the progressive scores obtained for the total sample varied from 7.30 to 16.00 with the mean being 12.50. The traditional scores varied from 3.60 to 14.90 with the mean being 9.40. Both the mean of the progressive scores and the mean of the traditional scores were higher than those reported by Kerlinger (1967) in the validation of the instrument. He obtained a mean progressive score of 5.42 and a mean traditional score of 4.25. Similarly, the standard deviations were 1.93 for the progressive scores and 2.27 for the traditional scores; whereas, Kerlinger obtained standard deviations of .64 for the progressive scores and .77 for the traditional scores. It is also interesting to note the range of A minus B scores, from -6.70 to 11.60, which is a

difference of approximately 18 points.

TABLE 2

DESCRIPTIVE MEASURES OF THE THREE ATTITUDE SCORES FOR THE TOTAL SAMPLE

Score	N	Mean	S. D.	Minimum	Maximum
Progressive (A) Score	90	12.50	1.93	7.30	16.00
Traditional (B) Score	90	9.40	2.27	3.60	14.90
A Minus B Score	90	3.08	3.78	-6.70	11.60

As was indicated in Chapter II, the A minus B score was the criterion used to divide the sample into the high, middle, and low teacher attitude groups. This score measures, if positive, the degree of Progressivism; and, if negative, the degree of Traditionalism. Table 3 illustrates the degree of progressive and traditional attitudes for the ghree groups; the mean A minus B score for the high group was 7.12, for the middle group 3.19 and for the low group -1.05.

TABLE 3

DESCRIPTIVE MEASURES OF THE THREE ATTITUDE SCORES FOR THE HIGH, MIDDLE, AND LOW TEACHER ATTITUDE GROUPS

Score	N	Mean	S. D.	Minimum	Maximum
			High		
Progressive (A) Score	30	14.28	.81	12.70	16.00
Traditional (B) Score	30	7.16	1.35	3.60	9.40
A Minus B Score	30	7.12	1.66	5.00	11.60
			Middle		
Progressive (A) Score	30	12.63	1.16	10.50	15.50
Traditional (B) Score	30	9.45	1.14	7.60	12.20
A Minus B Score	30	3.19	.98	1.50	4.90
			Low		
Progressive (A) Score	30	10.56	1.50	7.30	13.10
Traditional (B) Score	30	11.61	1.57	8.50	14.90
A Minus B Score	30	-1.05	2.36	-6.70	1.30

Kerlinger (1969) contends that one can probably infer that a

person is progressive if he receives an A minus B score of 1.00 or above and traditional if he receives an A minus B score of -.50 or greater. Based on this criteria, 83 percent of the teachers can be classified as having progressive attitudes (Table 4).

TABLE 4

FREQUENCY DISTRIBUTION OF THE A MINUS B ATTITUDE SCORES FOR THE TOTAL SAMPLE

Score (Midpoint of Interval)	Frequency	Percent
11.60	2	2.22
9.57	5	5.56
7.33	11	12.22
5.50	15	16.67
3.47	19	21.11
1.43	21	23.33
-.60	8	8.89
-2.63	4	4.44
-4.67	2	2.22
-6.70	3	3.33
Total	90	100.00

Note: Interval width = 2.03

As Tables 3 and 5 show, the lowest A minus B score for the high attitude group was 5.00. Thus, one can infer that all of the teachers in the high attitude group hold progressive attitudes toward education.

TABLE 5

FREQUENCY DISTRIBUTION OF THE A MINUS B ATTITUDE SCORES FOR THE HIGH TEACHER ATTITUDE GROUP

Score (Midpoint of Interval)	Frequency	Percent
11.60	1	3.33
10.87	1	3.33
10.13	0	
9.40	3	10.00
8.67	2	6.67
7.93	1	3.33
7.20	5	16.67
6.47	8	26.67
5.73	5	16.67
5.00	4	13.33
Total	30	100.00

Note: Interval width = .73

The A minus B scores for the middle attitude group varied from 4.90 to 1.50. Thus, based on the degree of Progressivism, one can infer that this group holds progressive attitudes toward education, but less so than the high attitude group (Tables 3 and 6).

TABLE 6

FREQUENCY DISTRIBUTION OF THE A MINUS B ATTITUDE SCORES FOR THE MIDDLE TEACHER ATTITUDE GROUP

Score (Midpoint of Interval	Frequency	Percent
4.90	2	6.67
4.52	1	3.33
4.14	4	13.33
3.77	4	13.33
3.39	6	20.00
3.01	0	
2.63	5	16.67
2.25	3	10.00
1.87	4	13.33
1.50	1	3.33
Total	30	100.00

Note: Interval width = .38

For the low attitude group, the A minus B scores varied from 1.30 to -6.70. Thus, one can infer that 50 percent of this group have traditional attitudes toward education and the remaining 50 percent have low progressive attitudes, from 1.30 to a -.50 (Table 7).

In summary, on the basis of the A minus B score, one can infer that those teachers in the high attitude group have progressive attitudes toward education. Similarly, one can infer that those teachers in the middle group have progressive attitudes toward education, but they are not as progressive as the high attitude group. Finally, the low

attitude group consists of those teachers with low progressive attitudes and those with traditional attitudes.

TABLE 7

FREQUENCY DISTRIBUTION OF THE A MINUS B ATTITUDE SCORES FOR THE LOW TEACHER ATTITUDE GROUP

Score (Midpoint of Interval)	Frequency	Percent
1.30	6	20.00
.41	9	30.00
-.47	2	6.67
-1.37	4	13.33
-2.26	4	13.33
-3.14	0	
-4.03	1	3.33
-4.92	1	3.33
-5.81	2	6.67
-6.70	1	3.33
Total	30	100.00

Note: Interval width = .89

Testing of the Hypotheses

In Chapter I, four major hypotheses and eleven sub-hypotheses were posed to investigate the relationship between teacher attitudes toward education, progressive and traditional, and the rating given to selected behavioral objectives as to how important they are for students to achieve.

The A minus B score on the Education Scale VI was the criterion used to divide the sample into thirds; high, middle, and low teacher

attitude groups. All three groups were used in the testing of the hypotheses.

All hypotheses were tested in the null form.

Hypothesis 1:

There is no significant difference between teacher attitudes toward education, progressive and traditional, and the importance given to cognitive domain behavioral objectives.

As Table 8 illustrates, the mean rating given to all cognitive domain objectives was 279.77 for the high teacher attitude group, 277.30 for the middle group, and 292.60 for the low group. An analysis of variance yielded a F statistic of .83. Since a F statistic of 3.11 was needed for significance at the .05 level, the null hypothesis was accepted.

TABLE 8

ANALYSIS OF VARIANCE BETWEEN THE HIGH, MIDDLE, AND LOW TEACHER ATTITUDE GROUPS ON THE VARIABLE RATING GIVEN TO ALL COGNITIVE DOMAIN OBJECTIVES

Group	N	Mean	S. D.	Significance of Means
High	30	279.77	57.25	F = .83 NS
Middle	30	277.30	47.23	
Low	30	292.60	42.04	

Hypothesis 2:

There is no significant difference between teacher attitudes toward education, progressive and traditional, and the importance given to behavioral objectives at each of the major taxonomic levels in the cognitive domain.

The first three sub-hypotheses tested were concerned with the three lowest taxonomic levels in the cognitive domain; knowledge, comprehension, and application. The data analysis related to these hypotheses is presented in Table 9.

Hypothesis 2a:

There is no significant difference between teacher attitudes toward education and the importance given to behavioral objectives at the cognitive level of knowledge.

Hypothesis 2b:

There is no significant difference between teacher attitudes toward education and the importance given to behavioral objectives at the cognitive level of comprehension.

Hypothesis 2c:

There is no significant difference between teacher attitudes toward education and the importance given to behavioral objectives at the cognitive level of application.

As Table 9 shows, none of the three F tests produced results that were significant at the .05 level. The means of the high, middle, and low groups for the rating given to the objectives at the cognitive level of knowledge were 59.17, 59.60, and 65.90, respectively, and the F statistic was 2.83. It is interesting to note that this is the highest F statistic obtained for any level within the cognitive domain and suggests that a relationship does exist between the teachers' attitudes toward

education and how they rated knowledge level objectives. However, since a F statistic of 3.11 was needed for significance at the .05 level, the null hypothesis was accepted.

The means for the cognitive level of comprehension were 63.37, 63.53, and 66.10 for the high, middle, and low groups, respectively, and the F statistic was .57. For the cognitive level of application the means were 61.93, 62.30, and 64.10 for the high, middle, and low groups, and the F statistic was .31. The null hypothesis was retained for both these hypotheses.

TABLE 9

ANALYSIS OF VARIANCE BETWEEN THE HIGH, MIDDLE AND LOW TEACHER ATTITUDE GROUPS ON THE VARIABLE RATING GIVEN TO THE OBJECTIVES AT THE THREE LOWEST LEVELS IN THE COGNITIVE DOMAIN

Group	N	Mean	S. D.	Significance of Means
		Knowledge		
High	30	59.17	15.61	F = 2.83 NS
Middle	30	5	10.30	
Low	30		10.10	
		rehension		
High	30	63.37	13.09	F = .57 NS
Middle	30	63.53	9.87	
Low	30	66.10	10.08	
		Application		
High	30	61.93	12.80	F = .31 NS
Middle	30	62.30	10.91	
Low	30	64.10	10.11	

The next three sub-hypotheses tested were concerned with the three highest taxonomic levels in the cognitive domain; analysis, synthesis, and evaluation.

Hypothesis 2d:

There is no significant difference between teacher attitudes toward education and the importance given to behavioral objectives at the cognitive level of analysis.

Hypothesis 2e:

There is no significant difference between teacher attitudes toward education and the importance given to behavioral objectives at the cognitive level of synthesis.

Hypothesis 2f:

There is no significant difference between teacher attitudes toward education and the importance given to behavioral objectives at the cognitive level of evaluation.

For the above hypotheses, none of the F tests produced results that were significant at the .05 level (Table 10). The means of the high, middle, and low groups for the rating given to the objectives at the cognitive level of analysis were 32.03, 30.60, and 31.77, respectively, and the F statistic was .42. For the cognitive level of synthesis the means were 30.80, 29.56, and 31.73 for the high, middle, and low groups, and the F statistic was .75. For the high, middle, and low groups the means were 32.47, 31.70, and 33.00, respectively, for the cognitive level of evaluation, and the F statistic was .28. The null hypothesis was accepted for all three hypotheses.

TABLE 10

ANALYSIS OF VARIANCE BETWEEN THE HIGH, MIDDLE AND LOW TEACHER ATTITUDE GROUPS ON THE VARIABLE RATING GIVEN TO THE OBJECTIVES AT THE THREE HIGHEST LEVELS IN THE COGNITIVE DOMAIN

Group	N	Mean	S. D.	Significance of Means
		Analysis		
High	30	32.03	6.93	F = .42 NS
Middle	30	30.60	7.06	
Low	30	31.77	5.19	
		Synthesis		
High	30	30.80	7.06	F = .75 NS
Middle	30	29.56	7.23	
Low	30	31.73	6.28	
		Evaluation		
High	30	32.47	7.57	F = .28 NS
Middle	30	31.70	7.48	
Low	30	33.00	5.04	

The law two hypotheses and five sub-hypotheses tested were those that focused upon the relationship between the teachers' attitudes toward education and the importance given to affective domain behavioral objectives.

Hypothesis 3:

There is no significant difference between teacher attitudes toward education, progressibe and traditional, and the importance given to affective domain behavioral objectives.

As Table 11 illustrates, the mean rating given to all affective domain objectives was 152.87 for the high group, 149.23 for the middle group, and 139.53 for the low group. An analysis of variance yielded a F statistic of 3.93, which was significant at the .05 level. The t statistic obtained in the test of mean differences between groups was .74 for the high and middle groups, which was not significant at the .05 level. However, the t statistic obtained between the high group and low group was 2.72, which was significant at the .01 level. The t statistic obtained between the middle and low groups was 1.98, which was significant at the .05 level. Therefore, based on the obtained F statistic, the null hypothesis was rejected.

TABLE 11

ANALYSIS OF VARIANCE BETWEEN THE HIGH, MIDDLE, AND LOW TEACHER ATTITUDE GROUPS ON THE VARIABLE RATING GIVEN TO ALL AFFECTIVE DOMAIN OBJECTIVES

Group	N	Mean	S. D.	Significance of Means
High	30	152.87	20.87	F - 3.97*
Middle	30	149.23	18.54	
Low	30	139.53	17.21	
t_{H-M} = .74;		t_{H-L} = 2.72**;		t_{M-L} = 1.98*

*p < .05
**p < .01

Hypothesis 4:

There is no significant difference between teacher attitudes toward education, progressive and traditional, and the importance given to behavioral objectives at each of the major taxonomic levels in the affective domain.

The first three sub-hypotheses tested were concerned with the three lowest taxonomic levels in the affective domain; receiving, responding, and valuing. The data analysis related to these hypotheses is presented in Table 12.

Hypothesis 4a:

There is no significant difference between teacher attitudes toward education and the importance given to behavioral objectives at the affective level of receiving.

Hypothesis 4b:

There is no significant difference between teacher attitudes toward education and the importance given to behavioral objectives at the affective level of responding.

Hypothesis 4c:

There is no significant difference between teacher attitudes toward education and the importance given to behavioral objectives at the affective level of valuing.

For the above hypotheses, none of the F tests produced results that were significant at the .05 level (Table 12). The means of the high, middle, and low groups for the rating given to the objectives at the affective level of receiving were 38.00, 37.47, and 35.60, respectively, and the F statistic was 1.89. For the high, middle, and low groups the means were 38.40, 37.87, and 35.30, respectively, for the affective level of responding, and the F statistic was 2.89. For the

affective level of valuing, the mean for the high group was 37.17, 35.07 for the middle group, and 33.63 for the low group, and the F statistic was 2.84. It should be noted that the F statistic obtained for the affective level of responding and the affective level of valuing were greater than the F statistic obtained for the affective level of receiving, but since a F statistic of 3.11 was needed for significance at the .05 level, the null hypothesis was accepted for all three hypotheses.

TABLE 12

ANALYSIS OF VARIANCE BETWEEN THE HIGH, MIDDLE AND LOW TEACHER ATTITUDE GROUPS ON THE VARIABLE RATING GIVEN TO THE OBJECTIVES AT THE THREE LOWEST LEVELS IN THE AFFECTIVE DOMAIN

Group	N	Mean	S. D.	Significance of Means
		Receiving		
High	30	38.00	5.15	F = 1.89 NS
Middle	30	37.47	5.18	
Low	30	35.60	4.72	
		Responding		
High	30	38.40	5.78	F = 2.89 NS
Middle	30	37.87	4.64	
Low	30	35.30	5.52	
		Valuing		
High	30	37.17	6.48	F = 2.84 NS
Middle	30	35.07	6.04	
Low	30	33.63	4.63	

Hypothesis 4d:

There is no significant difference between teacher attitudes toward education and the importance given to behavioral objectives at the affective level of organization.

The F statistic obtained in the test of mean differences, as shown in Table 13, was 1.37. The means of the high, middle, and low groups were 17.97, 18.30, and 16.80, respectively. Since the F statistic was not significant at the .05 level, the null hypothesis was accepted.

TABLE 13

ANALYSIS OF VARIANCE BETWEEN THE HIGH, MIDDLE, AND LOW TEACHER ATTITUDE GROUPS ON THE VARIABLE RATING GIVEN TO THE OBJECTIVES AT THE AFFECTIVE DOMAIN LEVEL OF ORGANIZATION

Group	N	Mean	S. D.	Significance of Means
High	30	17.97	4.27	F = 1.37 NS
Middle	30	18.30	3.37	
Low	30	16.80	3.34	

The final sub-hypothesis tested was the relationship between teacher attitudes toward education and the objectives at the highest level in the affective domain, characterization.

Hypothesis 4e:

There is no significant difference between teacher attitudes toward education and the importance given to behavioral objectives at the affective level of characterization.

As Table 14 illustrates, the mean was 21.33 for the high group, 20.53 for the middle group, and 18.30 for the low group. The F statistic, 7.66, was the highest obtained for any of the tests of means, and was significant at the .01 level. The t statistic obtained in the test of mean differences between groups was .99 for the high and middle groups, which was not significant at the .05 level. However, the t statistic obtained between the high group and the low group was 3.77, which was significant at the .01 level. The t statistic obtained between the middle and low groups was 2.78, and was significant at the .01 level. Therefore, based on the obtained F statistic, the null hypothesis was rejected.

TABLE 14

ANALYSIS OF VARIANCE BETWEEN THE HIGH, MIDDLE AND LOW TEACHER ATTITUDE GROUPS ON THE VARIABLE RATING GIVEN TO THE OBJECTIVES AT THE AFFECTIVE DOMAIN LEVEL OF CHARACTERIZATION

Group	N	Mean	S. D.	Significance of Means
High	30	21.33	2.77	F = 7.66*
Middle	30	20.53	3.20	
Low	30	18.30	3.33	
t_{H-M} = .99;		t_{H-L} = 3.77*		t_{M-L} = 2.78*

*p < .01

In summary, thirteen tests of mean differences were used to test the null hypotheses. As a result, one major hypothesis and one sub-hypothesis were rejected, and one major hypothesis and ten sub-hypotheses were retained. Significant differences were found between the three teacher attitude groups and the importance given to the total set of affective domain objectives, and to the objectives at the highest level in the affective domain, characterization.

No significant differences were found between the three teacher attitude groups and the importance given to the total set of cognitive domain objectives, nor to those objectives at the six levels within the cognitive domain. Also, no significant differences were found between the three teacher attitude groups and the importance given to those objectives at the receiving, responding, valuing, and organization levels within the affective domain.

Intercorrelations Between the Ratings Given to the Objectives and the Teacher Attitude Scores

The Pearson product-moment correlation was used to determine the degree of relationship between the three teacher attitude scores; the progressive score (A), the traditional score (B), and the A minus B score, and the ratings given to all cognitive and affective domain objectives.

The intercorrelations between the ratings given to the total set of cognitive and affective domain objectives, and the three teacher attitude scores for the total sample are shown in Table 15.

As Table 15 illustrates, the degree of correlation between the total cognitive domain scores and the total affective domain scores was .61, which indicated a fairly strong positive correlation and was significant at the .01 level.

It is interesting to note the differences in the degree of correlation between the three teacher attitude scores and the ratings given to the objectives in both domains. A correlation coefficient of .03 was obtained for the relationship between the progressive scores and the total cognitive domain scores, and a correlation coefficient of .41 between the progressive scores and the total affective domain scores, which was significant at the .01 level.

The correlation coefficient for the traditional scores in relation to the total cognitive domain scores was .26. For the relationship between the traditional scores and the total affective domain scores the correlation coefficient was -.19.

With regards to the A minus B scores, the correlation coefficient was negative, -.14 for the total cognitive domain scores, and positive, .33, for the total affective domain scores.

The degree of correlation between the progressive scores and the traditional scores was -.62 which was a fairly high negative correlation, and significant at the .01 level. It should be noted that the correlation coefficient obtained in this study for these two variables was greater than that obtained by Kerlinger (1967). He obtained a

correlation coefficient of -.25 for the relationship between the progressive scores and the traditional scores.

As Table 15 illustrates, a strong positive correlation, .88, was obtained for the relationship between the progressive scores and the A minus B scores. In contrast, a strong negative correlation, -.95, was obtained for the relationship between the traditional scores and the A minus B scores. Both of these were significant at the .01 level.

TABLE 15

INTERCORRELATIONS BETWEEN THE TOTAL COGNITIVE AND AFFECTIVE DOMAIN SCORES AND THE TEACHER ATTITUDE SCORES FOR THE TOTAL SAMPLE

Variable	Variable				
	1	2	3	4	5
Total Cognitive Domain Score (1)	____				
Total Affective Domain Score (2)	.61**	____			
Progressive (A) Scores (3)	.03	.41**	____		
Traditional (B) Scores (4)	.26*	-.19	-.62**	____	
A - B Scores (5)	-.14	.33**	.88**	-.95**	____

Note: N = 90, df = 88
*p < .05, r = .21
**p < .01, r = .27

In summary, for the total sample the highest correlation coefficient obtained was -.95 for the relationship between the A minus B scores and the traditional scores. The second highest correlation coefficient was .88 for the relationship between the A minus B scores and the progressive scores.

For the relationship between the two attitude scores, progressive and traditional, a fairly strong negative correlation coefficient was obtained -.62. The other fairly strong positive correlation was between the total cognitive domain scores and the total affective domain scores, .61.

The intercorrelations between the total cognitive and affective domain scores and the teacher attitude scores for the three teacher attitude groups are illustrated in Tables 16 through 18. The discussion of the data has been limited to those correlation coefficients that were statistically significant within each group.

As Table 16 illustrates, for the high teacher attitude group the degree of correlation between the total cognitive and total affective domain scores was .68, which was fairly strong and significant at the .01 level.

The correlation coefficient for the traditional scores in relation to the total cognitive domain scores was .56, which was significant at the .01 level. Neither of the correlation coefficients for the relationship between the traditional scores, and the total affective domain

scores and the progressive scores were statistically significant.

The degree of correlation between the A minus B scores and the total cognitive domain scores was -.36, which was significant at the .05 level. For the A minus B scores in relation to the progressive scores the correlation coefficient was .58, which was significant at the .01 level. A strong negative correlation, -.87, was obtained for the relationship between the A minus B scores and the traditional scores.

TABLE 16

INTERCORRELATIONS BETWEEN THE TOTAL COGNITIVE AND AFFECTIVE DOMAIN SCORES AND TEACHER ATTITUDE SCORES FOR THE HIGH ATTITUDE GROUP

Variable		Variable				
		1	2	3	4	5
Total Cognitive Domain Scores	(1)	____				
Total Affective Domain Scores	(2)	.68**	____			
Progressive (A) Scores	(3)	.19	.03	____		
Traditional (B) Scores	(4)	.56**	.35	-.12	____	
A - B Scores	(5)	-.36*	-.27	.58**	-.87**	____

Note: N = 30, df = 28
*p< .05, r = .36
**p< .01, r = .46

The intercorrelations for the middle teacher attitude group are shown in Table 17. The degree of correlation between the total cognitive and total affective domain scores was .66, which was significant at the .01 level. The correlation coefficients for these two variables were similar for both the high and middle groups.

With regard to the traditional scores, the only correlation coefficient that was statistically significant was the relationship with the progressive scores, which was a fairly strong positive correlation, .63, and significant at the .01 level.

The correlation coefficient between the A minus B scores and the progressive scores was .44. For the relationship between the A minus B scores and the traditional scores the correlation coefficient was a -.41. Both of these were significant at the .05 level. It should be noted that the direction of correlation, positive and negative, were the same as the high teacher attitude group, but the degree of correlation was not as strong.

TABLE 17

INTERCORRELATIONS BETWEEN THE TOTAL COGNITIVE AND AFFECTIVE DOMAIN SCORES AND THE TEACHER ATTITUDE SCORES FOR THE MIDDLE ATTITUDE GROUP

Variable		Variable				
		1	2	3	4	5
Total Cognitive Domain Scores	(1)	____				
Total Affective Domain Scores	(2)	.66**	____			
Progressive (A) Scores	(3)	.08	.30	____		
Traditional (B) Scores	(4)	.35	.20	.63**	____	
A - B Scores	(5)	-.31	.13	.44**	-.41*	____

Note: N = 30, df = 28
*p < .05, r = .36
**p < .01, r = .46

The intercorrelations for the low teacher attitude group are illustrated in Table 18. Similar to both the high and middle teacher attitude groups, the degree of correlation between the total cognitive domain scores and the total affective domain scores was fairly strong, .71, and significant at the .01 level.

In contrast to the high and middle attitude groups the degree of correlation for the low group between the progressive scores and the total cognitive domain scores was greater, .36, and significant at

the .05 level. Similarly, the degree of correlation between the progressive scores and the total affective domain scores, .57, which was significant at the .01 level, was greater than that obtained for the high and middle attitude groups.

The correlation coefficients for the relationships between the traditional scores, and the total cognitive domain scores, total affective domain scores, and the progressive scores were all negative and not significant at the .05 level.

A fairly strong positive correlation, .60, was obtained for the relationship between the A minus B scores and the total affective domain scores. Similarly, a fairly strong positive correlation, .76, was obtained for the relationship between the A minus B scores and the progressive scores. For the relationship between the A minus B scores and the traditional scores a fairly strong negative correlation, -.78, was obtained. All three of the above correlation coefficients were significant at the .01 level.

TABLE 18

INTERCORRELATIONS BETWEEN THE TOTAL COGNITIVE AND AFFECTIVE DOMAIN SCORES AND THE TEACHER ATTITUDE SCORES FOR THE LOW ATTITUDE GROUP

Variable	Variable				
	1	2	3	4	5
Total Cognitive Domain Scores (1)	____				
Total Affective Domain Scores (2)	.71**	____			
Progressive (A) Scores (3)	.36*	.57**	____		
Traditional (B) Scores (4)	-.04	-.35	-.19	____	
A - B Scores (5)	.26	.60**	.76**	-.78**	____

Note: N - 30, df - 28
*p < .05, r = .36
**p < .01, r = .46

In summary, for the high teacher attitude group the strongest negative correlation was the relationship between the A minus B scores and the traditional scores, -.87. The strongest positive correlation, .68, was the relationship between the total cognitive scores and the total affective domain scores. Two correlation coefficients were fairly positive, one between the traditional scores and the total affective domain scores, .56, and the other between the A minus B scores and the progressive scores, .58.

For the middle teacher attitude group the strongest positive

correlation was between the total cognitive domain scores and the total affective domain scores, .66. The next highest positive correlation was between the traditional scores and the progressive scores, .63. The strongest negative correlation, -.44, was between the A minus B scores and the traditional scores.

For the low teacher attitude group the strongest negative correlation, -.78, was between the A minus B scores and the traditional scores. The strongest positive correlation, .76, was between the A minus B scores and the progressive scores. The next strongest positive correlation, .71, was between the total cognitive domain scores and the total affective domain scores. Two correlation coefficients were fairly positive, one between the progressive scores and the total affective domain scores, .57, and the other between the A minus B scores and the total affective domain scores, .60.

Relationships Between The Teachers' Attitudes Toward Education And The Biographic Variables

The chi-square test of independence was used to examine the relationships between the teachers' attitudes toward education and seventeen biographic variables: (1) the sex of the teacher; (2) the age of the teacher; (3) the minority group membership of the teacher; (4) the completed level of education; (5) the number of undergraduate semester hours in social studies; (6) the number of graduate semester hours in social studies; (7) the number of undergraduate semester hours in professional education; (8) the number of graduate semester

hours in professional education; (9) the type of teaching certificate held by the teacher; (10) the number of years of teaching experience at the elementary level; (11) the number of years of teaching experience at the secondary level; (12) the population of the community in which the teacher was employed; (13) the type of school in which the teacher was employed; (14) the grade levels contained in the school; (15) the present teaching assignment; (16) the school organizational plan; and, (17) the percentage of minority group students in the teacher's classroom.

The sample was composed of approximately three times as many women (72.2 percent) as men (27.8 percent). Only 26 percent of the men were in the low teacher attitude category as compared to 40 percent of the women. The chi-square obtained, 5,428, however, was not significant at the .05 level (Table 19).

TABLE 19

BIVARIATE FREQUENCY DISTRIBUTION FOR THE VARIABLES SEX AND TEACHER ATTITUDES TOWARD EDUCATION

Sex	Attitudes Toward Education						Marginial Total	
	High		Middle		Low			
	N	%	N	%	N	%	N	%
Male	12	48.0	9	36.0	4	16.0	25	27.8
Female	18	27.7	21	32.3	26	40.0	65	72.2
Total	30	33.3	30	33.3	30	33.3	90	100.0

$X^2 = 5.428$ df = 2 .07

Approximately 64 percent of the teachers were between twenty-five and fourty-four years of age. It is interesting to note that between the ages of twenty and twenty-four, 50 percent of the teachers were in the middle attitude category and 33 percent were in the low attitude category. The highest percentage of low attitude category teachers were between the ages of fifty-five and sixty-four; whereas, the highest percentage of high attitude category teachers were between the ages of twenty-five and thirty-four (Table 20).

The test of independence produced a chi-square of 9.351, which was not significant at the .05 level.

TABLE 20

BIVARIATE FREQUENCY DISTRIBUTION FOR THE VARIABLES AGE AND TEACHER ATTITUDES TOWARD EDUCATION

Age	Attitudes Toward Education						Marginal Total	
	High		Middle		Low			
	N	%	N	%	N	%	N	%
20-24	1	16.7	3	50.0	2	33.3	6	6.7
25-34	13	38.2	14	41.2	7	20.6	34	37.8
35-44	9	37.5	5	20.8	10	41.7	24	26.7
45-54	4	28.6	6	42.9	4	28.6	14	15.6
55-64	3	25.0	2	16.7	7	58.3	12	13.3
Total	30	33.3	30	33.3	30	33.3	90	100.0

$X^2 = 9.351 \quad df = 7 \quad .31$

Eighty-seven, or 96.7 percent, of the teachers did not claim

minority group membership, and only three teachers in the sample belonged to a minority group. The chi-square of 6.00 did not indicate significance at the .05 level (Table 21).

TABLE 21

BIVARIATE FREQUENCY DISTRIBUTION FOR THE VARIABLES MINORITY GROUP MEMBERSHIP AND TEACHER ATTITUDES TOWARD EDUCATION

Minority Group	Attitudes Toward Education						Marginal Total	
	High		Middle		Low			
	N	%	N	%	N	%	N	%
No	29	33.3	29	33.3	29	33.3	87	96.7
Black	1	100.0	0	____	0	____	1	1.1
Chicano	0	____	0	____	1	100.0	1	1.1
Native American	0	____	1	100.0	0	____	1	1.1
Other	0	____	0	____	0	____		____
Total	30	33.3	30	33.3	30	33.3	90	100.0

X^2 = 6.00 df = 6 .42

Most of the teachers, 84.4 percent, had taken some graduate course work, and 45.6 percent possessed either a master's degree or graduate work beyond the master's. It is interesting to note that 63.3 percent of the teachers in the high attitude category possessed either a master's degree or graduate work beyond the master's; whereas, for the low attitude category 70 percent of the teachers possessed only a bachelor's degree or some graduate work beyond the bachelor's (Table 22).

The chi-square of 10.131 was not significant at the .05 level.

TABLE 22

BIVARIATE FREQUENCY DISTRIBUTION FOR THE VARIABLES COMPLETED LEVEL OF EDUCATION AND TEACHER ATTITUDES TOWARD EDUCATION

Level of Education	Attitudes Toward Education						Marginal Total	
	High		Middle		Low			
	N	%	N	%	N	%	N	%
BA or BS	1	7.1	4	28.6	9	64.3	14	15.6
Some Graduate Work	10	28.6	13	37.1	12	34.3	35	38.9
MA	10	43.5	8	34.8	5	21.7	23	25.6
Graduate Work Beyond MA	9	50.0	5	27.8	4	22.2	18	20.0
PhD or EdD	0	____	0	____	0	____	0	____
Total	30	33.3	30	33.3	30	33.3	90	100.0

X^2 = 11.386 df = 6 .08

Almost all of the teachers, 98.9 percent, had more than sixteen undergraduate semester hours in social studies, and 48.9 percent had between thirty-one and forty-five semester hours. Both in the high attitude and middle attitude categories, 63.3 percent of the teachers had more than thirty semester hours in social studies; whereas, for the low attitude category 80 percent of the teachers had more than

thirty semester hours in social studies. However, the chi-square needed for significance at the .05 level was not obtained (Table 23).

TABLE 23

BIVARIATE FREQUENCY DISTRIBUTION FOR THE VARIABLES NUMBER OF UNDERGRADUATE SEMESTER HOURS IN SOCIAL STUDIES AND TEACHER ATTITUDES TOWARD EDUCATION

Semester Hours	Attitudes Toward Education						Marginal Total	
	High		Middle		Low			
	N	%	N	%	N	%	N	%
0	0	____	0	____	0	____	0	____
1-15	1	[illegible]	0	____	0	____	1	1.1
16-30	10	[illegible]	11	40.7	6	22.2	27	30.0
31-45	13	29.5	15	34.1	16	36.4	44	48.9
46-60	0	____	1	14.3	6	85.7	7	7.8
61-75	5	50.0	3	30.0	2	20.0	10	11.1
76-90	0	____	0	____	0	____	0	____
Over-90	1	100.0	0	____	0	____	1	1.1
Total	30	33.3	30	33.3	30	33.3	90	100.0

X^2 = 16.131 df = 10 .10

Approximately 58 percent of the teachers had taken graduate course work in the area of social studies (Table 24). However, for those teachers who had not taken graduate work in social studies, 47.4 percent were in the low attitude category and the remainder, 42.6 percent were equally divided between the high and middle attitude categories. For those teachers who had been one and fifteen semester

hours in social studies, 37.7 percent were in the high attitude category, 45 percent in the middle, and only 17.5 percent in the low attitude category. It is interesting to note that the percentages of teachers in the high and low attitude categories were the same, 41.7 percent, for the number of graduate hours between sixteen and thirty, with the percentage of teachers in the middle attitude category being the lowest, 16.7 percent.

The chi-square produced by these differences, 9.718, was significant at the .05 level.

TABLE 24

BIVARIATE FREQUENCY DISTRIBUTION FOR THE VARIABLES NUMBER OF GRADUATE SEMESTER HOURS IN SOCIAL STUDIES AND TEACHER ATTITUDES TOWARD EDUCATION

Semester Hours	Attitudes Toward Education						Marginal Total	
	High		Middle		Low			
	N	%	N	%	N	%	N	%
0	10	26.3	10	26.3	18	47.4	38	42.2
1-15	15	37.5	18	45.0	7	17.5	40	44.5
16-30	5	41.7	2	16.7	5	41.7	12	13.3
Over-30	0	____	0	____	0	____	0	____
Total	30	33.3	30	33.3	30	33.3	90	100.0

$X^2 = 9.718$ df = 4 .05*

*$p < .05$

Almost all of the teachers, 97.7 percent, had over sixteen semester hours in undergraduate education courses, and 58.9 percent had over thirty semester hours in undergraduate education courses. It should be noted that in the low attitude category 40 percent of the teachers had between thirty-one and forty-five hours in education; whereas, the teachers in the high and middle attitude categories had 32 percent and 28 percent, respectively.

The chi-square of 9.034 did not indicate significance at the .05 level (Table 25).

TABLE 25

BIVARIATE FREQUENCY DISTRIBUTION FOR THE VARIABLES NUMBER OF UNDERGRADUATE SEMESTER HOURS IN PROFESSIONAL EDUCATION AND TEACHER ATTITUDES TOWARD EDUCATION

Semester Hours	Attitudes Toward Education						Marginal Total	
	High		Middle		Low			
	N	%	N	%	N	%	N	%
0	1	50.0	1	50.0	0	0.0	2	2.2
1-15	0	____	0	____	0	____	0	____
16-30	13	37.1	13	37.1	9	25.7	35	38.9
31-45	14	28.0	16	32.0	20	40.0	50	55.6
46-60	2	100.0	0	____	0	____	2	2.2
61-75	0	____	0	____	1	100.0	1	1.1
Over-75								
Total	30	33.3	30	33.3	30	33.3	90	100.0

X^2 = 9.034 df = 8 .34

Most of the teachers, 84.4 percent, had taken graduate course work in professional education. It is interesting to note that there is a readily apparent progression in the percentages of the first four groups that are represented in the high attitude and low attitude categories; whereas, beginning with the zero group there are increases in the percentages of teachers in each group for the high attitude categories, and decreases in the percentages of teachers in each group for the low attitude categories. However, the chi-square produced by these differences, 17.561, was not significant at the .05 level (Table 26).

TABLE 26

BIVARIATE FREQUENCY DISTRIBUTION FOR THE VARIABLES NUMBER OF GRADUATE SEMESTER HOURS IN PROFESSIONAL EDUCATION AND TEACHER ATTITUDES TOWARD EDUCATION

Semester Hours	Attitudes Toward Education						Marginal Total	
	High		Middle		Low			
	N	%	N	%	N	%	N	%
0	1	7.1	4	28.6	9	64.3	14	15.6
1-15	9	25.7	13	37.1	13	37.1	35	38.9
16-30	12	44.4	8	29.6	7	25.9	27	30.0
31-45	7	63.6	3	27.3	1	9.1	11	12.2
46-60	0	____	1	100.0	0	____	1	1.1
61-75	1	50.0	1	50.0	0	____	2	2.2
Over-75	0	____	0	____	0	____	0	____
Total	30	33.3	30	33.3	30	33.3	90	100.0

X^2 = 17.561 df = 10 .07

All of the teachers in the sample were certified to teach at the elementary level (K-8). Because there were no differences between the three categories, the chi-square test of independence was not relevant (Table 27).

TABLE 27

BIVARIATE FREQUENCY DISTRIBUTION FOR THE VARIABLES TYPE OF TEACHING CERTIFICATE AND TEACHER ATTITUDES TOWARD EDUCATION

Certificate	Attitudes Toward Education						Marginal Total	
	High		Middle		Low			
	N	%	N	%	N	%	N	%
None	0	____	0	____	0	____	0	____
Elem. (K-8)	30	33.3	30	33.3	30	33.3	90	100.0
Sec. (7-12)	0	____	0	____	0	____	0	____
Other	0	____	0	____	0	____	0	____
Total	30	33.3	30	33.3	30	33.3	90	100.0

X^2: Cannot be Computed

For the number of years of teaching experience at the elementary level (K-6) there is a readily apparent progression in the percentages of the third through fifth groups that are represented in the high attitude and low attitude categories; whereas, beginning with the six to ten year group the percentages of teachers in each group decrease for

the high attitude category, and the percentages of teachers in each group increase for the low attitude category. The chi-square obtained, 8.643, for the differences was not significant at the .05 level (Table 28).

TABLE 28

BIVARIATE FREQUENCY DISTRIBUTION FOR THE VARIABLES NUMBER OF YEARS OF TEACHING EXPERIENCE AT THE ELEMENTARY LEVEL AND TEACHER ATTITUDES TOWARD EDUCATION

Years of Experience	Attitudes Toward Education						Marginal Total	
	High		Middle		Low			
	N	%	N	%	N	%	N	%
0	0	____	0	____	0	____	0	____
1-5	5	27.8	8	44.4	5	27.8	18	20.0
6-10	13	43.3	11	36.7	6	20.0	30	33.3
11-15	8	36.4	5	22.7	9	40.9	22	24.4
16-20	3	23.1	3	23.1	7	53.8	13	14.4
21-25	0	____	1	50.0	1	50.0	2	2.2
Over-25	1	20.0	2	40.0	2	40.0	5	5.6
Total	30	33.3	30	33.3	30	33.3	90	100.0
X^2 =	8.643 df = 10 .57							

Only sixteen of the teachers had secondary level (7-12) teaching experience, and of these, 82.1 percent had no more than five years of secondary experience. The chi-square obtained, 6.181, was not significant at the .05 level (Table 29).

TABLE 29

BIVARIATE FREQUENCY DISTRIBUTION FOR THE VARIABLES NUMBER OF YEARS OF TEACHING EXPERIENCE AT THE SECONDARY LEVEL AND TEACHER ATTITUDES TOWARD EDUCATION

Years of Experience	Attitudes Toward Education						Marginal Total	
	High		Middle		Low			
	N	%	N	%	N	%	N	%
0	25	33.8	24	32.4	25	33.8	74	82.2
1-5	4	30.8	5	38.5	4	30.8	13	14.4
6-10	1	100.0	0	____	0	____	1	1.1
11-15	0	____	0	____	0	____	0	____
16-20	0	____	0	____	1	100.0	1	1.1
21-25	0	____	1	100.0	0	____	1	1.1
Over-25	0	____	0	____	0	____	0	____
Total	30	33.3	30	33.3	30	33.3	90	100.0

X^2 = 6.181 df = 8 .63

As Table 30 illustrates, 98.9 percent of the teachers taught in communities with a population of 500,000 or less. Just over one-third (37.8 percent) of the teachers taught in communities with a population between 10,000 and 50,000, and one-third (33.3 percent) taught in communities with a population between 50,000 and 100,000. For the high attitude category, 73.3 percent of the teachers taught in communities with a population of less than 100,000; whereas, for the low attitude category, 93.3 percent of the teachers taught in communities with a

population of less than 100,000.

The chi-square produced by these differences, 10.012, was not significant at the .05 level.

TABLE 30

BIVARIATE FREQUENCY DISTRIBUTION FOR THE VARIABLES POPULATION OF THE COMMUNITY AND TEACHER ATTITUDES TOWARD EDUCATION

Population	Attitudes Toward Education						Marginal Total	
	High		Middle		Low			
	N	%	N	%	N	%	N	%
Less than 10,000	4	40.0	3	30.0	3	30.0	10	11.1
10,000 - 50,000	11	32.4	13	38.2	10	29.4	34	37.8
50,000 - 200,000	7	23.3	8	26.7	15	50.0	30.	33.3
100,000 - 500,000	8	53.3	5	33.3	2	13.3	15	16.7
500,000 - 1,000,000	0	____	1	100.0	0	____	1	1.1
Over - 1,000,000	0	____	0	____	0	____	0	____
Total	30	33.3	30	33.3	30	33.3	90	100.0

X^2 = 10.012 df = 8 .26

Most of the teachers, 92.2 percent, taught in public schools. Only seven teachers were teaching in private schools. The chi-square obtained, 10.012, was not significant at the .05 level (Table 31).

TABLE 31

BIVARIATE FREQUENCY DISTRIBUTION FOR THE VARIABLES TYPE OF SCHOOL AND TEACHER ATTITUDES TOWARD EDUCATION

Type of School	Attitudes Toward Education						Marginal Total	
	High		Middle		Low			
	N	%	N	%	N	%	N	%
Public	28	33.7	26	31.3	29	34.9	83	92.2
Private	2	38.6	4	57.1	1	14.3	7	7.8
Total	30	33.3	30	33.3	30	33.3	90	100.0

X^2 = 2.169 df = 2 .34

Sixty-four, 71.1 percent, of the teachers taught in schools which contained kindergarten through the sixth grade. It is interesting to note that for those teachers who taught in middle schools (grades four through six, five through eight, and six through eight) 43.7 percent were in the high attitude category, 31.3 percent were in the middle category, and 25 percent were in the low category (Table 32).

The chi-square obtained for these differences, 9.901, was not significant at the .05 level.

TABLE 32

BIVARIATE FREQUENCY DISTRIBUTION FOR THE VARIABLES GRADE LEVELS IN THE SCHOOL AND TEACHER ATTITUDES TOWARD EDUCATION

Grade Level	Attitudes Toward Education						Marginal Total	
	High		Middle		Low			
	N	%	N	%	N	%	N	%
K-6	21	32.8	30	31.3	23	35.9	64	71.1
K-4	0	____	2	100.0	0	____	2	2.2
2-6	1	25.0	2	50.0	1	25.0	4	4.4
4-6	1	50.0	1	50.0	0	____	2	2.2
5-8	4	36.4	3	27.3	4	36.4	11	12.2
6-8	2	66.7	1	33.3	0	____	3	3.3
1-8	0	____	1	50.0	1	50.0	2	2.2
K-12	1	50.0	0	0.0	1	50.0	2	2.2
Total	30	33.3	30	33.3	30	33.3	90	100.0

X^2 = 9.901 df = 14 .77

The percentages of teachers in each of the three groups; fourth, fifth, and sixth grade, were 33.3 percent, 35.6 percent, and 31.1 percent, respectively. For the fourth grade group, 43.3 percent of the teachers were in the middle attitude category, and in the fifth grade group, 40.6 percent of the teachers were in the high attitude category.

In the sixth grade group, 39.3 percent of the teachers were in the low attitude category, in contrast to 28.6 percent in the high attitude category (Table 33).

TABLE 33

BIVARIATE FREQUENCY DISTRIBUTION FOR THE VARIABLES TEACHING ASSIGNMENT AND TEACHER ATTITUDES TOWARD EDUCATION

Grade Level	Attitudes Toward Education						Marginal Total	
	High		Middle		Low			
	N	%	N	%	N	%	N	%
Fourth	9	30.0	13	43.3	8	26.7	30	33.3
Fifth	13	40.6	8	25.0	11	34.4	32	35.6
Sixth	8	28.6	9	32.1	11	39.3	28	31.1
Total	30	33.3	30	33.3	30	33.3	90	100.0

X^2 = 3.088 df = 4 .54

Eighty percent of the teachers taught in self-contained classrooms. The percentages of teachers in each of the three categories for the self-contained group increased from the low to the high categories, with 29.2 percent in the high category, 34.7 in the middle, and 36.1 in the low category. Just the opposite was true for the departmentalized group, there were 41.7 percent in the high category, 33.3 percent in the middle, and 25 percent in the low category (Table 34).

The chi-square for these differences, 4.083, was not significant at the .05 level.

TABLE 34

BIVARIATE FREQUENCY DISTRIBUTION FOR THE VARIABLES SCHOOL ORGANIZATIONAL PLAN AND TEACHER ATTITUDES TOWARD EDUCATION

Organizational Plan	Attitudes Toward Education						Marginal Total	
	High		Middle		Low			
	N	%	N	%	N	%	N	%
Self-contained	21	29.2	25	34.7	26	36.1	72	80.0
Depart-mentalized	5	41.7	4	33.3	3	25.0	12	13.3
Other	4	66.7	1	16.7	1	16.7	6	6.7
Total	30	33.3	30	33.3	30	33.3	90	100.0

$X^2 = 4.083$ df = 4 .40

The final set of relationships involved teacher attitudes and the percentage of minority group students in the teacher's classroom. Nearly half, 47.8 percent, of the teachers identified zero students in their classrooms as belonging to a minority group. Forty-two, 46.7 percent, of the teachers identified between one and twenty percent of their students as belonging to a minority group. Of this group, 28.6 percent of the teachers were in the high attitude category, and 35.7 percent in each of the middle and low attitude categories (Table 35).

The chi-square produced for these differences, 7.033, was not significant at the .05 level.

TABLE 35

BIVARIATE FREQUENCY DISTRIBUTION FOR THE VARIABLES PERCENTAGE OF MINORITY GROUP STUDENTS AND TEACHER ATTITUDES TOWARD EDUCATION

Percentage of Minority Group Students	Attitudes Toward Education						Marginal Total	
	High		Middle		Low			
	N	%	N	%	N	%	N	%
0	16	37.2	12	27.9	15	34.9	43	47.8
1-20	12	28.6	15	35.7	15	35.7	42	46.7
21-40	2	66.7	1	33.3	0	____	3	3.3
41-50	0	____	1	100.0	0	____	1	1.1
51-60	0	____	1	100.0	0	____	1	1.1
61-80	0	____	0	____	0	____	0	____
Over-80	0	____	0	____	0	____	0	____
Total	30	33.3	30	33.3	30	33.3	90	100.0

X^2 = 7.033 df = 8 .53

Chi-square tests of independence were used to investigate the relationships between seventeen biographic variables and teacher attitudes toward education. Only one of these variables, the number of graduate semester hours in social studies, was found to have a statistically significant relationship with teacher attitudes toward education. Significant relationships were not found between teacher attitudes

toward education and the sex of the teacher; the age of the teacher; the minority group membership of the teacher; completed level of education; the number of undergraduate semester hours in social studies; the number of undergraduate semester hours in professional education; the number of graduate semester hours in professional education; the type of teaching certificate held by the teacher; the number of years teaching experience at the elementary level; the number of years of teaching experience at the secondary level; the population of the community in which the teacher was employed; the type of school in which the teacher was employed; the grade levels contained in the school; the present teaching assignment; the school organizational plan; and, the percentage minority group students in the teacher's classroom.

Summary

This chapter included the presentation of the data related to five areas: description of the sample; descriptive statistical analysis of the teachers' attitudes toward education; the testing of the four major hypotheses and the eleven sub-hypotheses; the intercorrelation between the ratings given to the behavioral objectives and the teacher attitude scores; and, finally, an examination of the relationships between the biographic variables and the teachers' attitudes toward education. The examination of the teachers' attitudes revealed that the majority of the teachers sampled in this investigation held progressive attitudes toward education, and only about one-fourth could be classified as having

traditional attitudes.

In testing the null hypotheses, significant differences were found to exist between the teachers' attitudes toward education and the importance given to the total set of affective domain objectives and to the highest level within the affective domain, characterization.

The intercorrelations between the ratings given to the behavioral objectives and the teacher attitude scores produced a number of statistically significant relationships. The most significant were: the relationship between the A minus B scores and the traditional scores; the A minus B scores and the progressive scores; the relationship between progressive scores and the traditional scores; and, the relationship between the total cognitive domain scores and the total affective domain scores.

Finally, only one biographic variable, the number of graduate semester hours in social studies, was found to be statistically related to teacher attitudes toward education.

CHAPTER IV

SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

This chapter contains a summary of the design of the study, major findings, conclusions, and implications. In addition, recommendations for further research are included.

Summary of the Design of the Study

Purpose of the Study

The purpose of this study was to investigate the relationships between the two basic factors, Progressivism and Traditionalism, that underlie attitudes toward education, and the range of behavioral objectives teachers consider important for students to achieve.

The specific questions this study endeavored to answer were; when teachers rate a range of behavioral objectives as to how important they are for students to achieve:

1. Is there a relationship between the teacher's attitudes toward education, progressive and traditional, and the importance given to behavioral objectives in the cognitive domain and those within the affective domain?

2. Is there a relationship between the teacher's attitudes toward education, progressive and traditional, and the importance given to behavioral objectives at the major taxonomic levels within the

cognitive domain and the affective domain?

Hypotheses

Four major hypotheses and eleven sub-hypotheses were tested in an attempt to answer the above questions. Stated in the null form the four major hypotheses tested in the study were:

Hypothesis 1: There is no significant difference between teacher attitudes toward education, progressive and traditional, and the importance given to cognitive domain behavioral objectives.

Hypothesis 2: There is no significant difference between teacher attitudes toward education, progressive and traditional, and the importance given to behavioral objectives at each of the major taxonomic levels in the cognitive domain.

Hypothesis 3: There is no significant difference between teacher attitudes toward education, progressive and traditional, and the importance given to affective domain behavioral objectives.

Hypothesis 4: There is no significant difference between teacher attitudes toward education, progressive and traditional, and the importance given to behavioral objectives at each of the major taxonomic levels in the affective domain.

Research Design

Three measuring instruments were employed in conducting the study. Education Scale VI, developed by Kerlinger (1956, 1958, 1961, 1963, 1967), measures progressive and traditional attitudes toward education, and Behavioral Objectives: Social Studies - Intermediate, selected by the investigator from five published sets of objectives,

consists of 130 behavioral objectives with all major taxonomic levels in both domains represented, were the instruments used to measure teacher attitudes toward education and to identify those behavioral objectives teachers consider important for students to achieve. In addition, each of the participating teachers completed a data sheet that requested biographic information.

One-hundred and forty fourth, fifth, and sixth grade teachers, with a minimum of two years of experience at the elementary level, were asked to complete the three instruments. The sample was selected from a group of teachers who had either participated in a one-day workshop on the writing of behavioral objectives, conducted by the investigator during the 1972-1973 school year, and/or were known by the investigator to be attempting to write and use behavioral objectives as the basis for their instructional planning. All of the teachers were from seven school districts in the central and southeastern sections of the lower peninsula of the state of Michigan. Of this group, ninety teachers returned all three measuring instruments, therefore, the findings of this investigation were based on 64.3 percent of the total group included in the sample.

To investigate the relationships identified the sample was divided into thirds; high, middle, and low teacher attitude groups. The A (Progressivism) minus B (Traditionalism) score of the Education Scale VI was the basis used for dividing the sample.

The analysis of the data involved: a descriptive statistical analysis of the teachers' attitudes toward education; the testing of the four major hypotheses and eleven sub-hypotheses using a one-way analysis of variance, F test, and t tests; the use of the Pearson product-moment correlation to determine the degree of relationship between the teacher attitude scores and the ratings given to the behavioral objectives; and finally, the use of the chi-square test of independence to examine the relationships between the biographic variables and teacher attitudes toward education.

Major Findings

The summarization of the findings has been organized under four major divisions; teacher attitudes toward education; the statistical tests of the hypotheses; the intercorrelations between the ratings given to the behavioral objectives and the teacher attitude scores; and the relationships between the biographic variables and teacher attitudes toward education.

Teacher Attitudes Toward Education

The examination of the scores obtained on the Education Scale VI revealed that the majority of teachers sampled in this investigation, 83 percent, held progressive attitudes toward education, and only 17 percent could be classified as having traditional attitudes. The progressive attitude scores obtained for the total sample varied from

7.30 to 16.0 with the mean being 12.50. The traditional attitude scores varied from 3.60 to 14.90 with the mean being 9.40.

Statistical Tests of the Hypotheses

The A minus B score on the Education Scale VI was the criterion used to divide the sample into thirds; high, middle, and low teacher attitude groups. All three groups were used in the testing of the hypotheses.

Thirteen tests of mean differences were used to test the null hypotheses. As a result, one major hypothesis and one sub-hypothesis were rejected, and one major hypothesis and ten sub-hypotheses were retained.

Significant differences were found between the three teacher attitude groups and the importance given to the total set of affective domain objectives. The t statistic obtained in the test of mean differences between groups was .74 for the high and middle groups, which was not significant at the .05 level. However, the t statistic obtained between the high group and the low group was 2.72, which was significant at the .01 level. The t statistic obtained between the middle and low groups was 1.98. This was significant at the .05 level. An analysis of variance yielded a F statistic of 3.93, which was significant at the .05 level.

In addition, significant differences were found between the three

teacher attitude groups and the importance given to the objectives at the highest level in the affective domain, characterization. The t statistic obtained in the test of mean differences between groups was .99 for the high and middle groups, which was not significant at the .05 level. However, the t statistic obtained between the high group and the low group was 3.77, which was significant at the .01 level. The t statistic obtained between the middle and low groups was 2.78, and was significant at the .01 level. The F statistic, 7.66, was the highest obtained for any of the tests of means, and was significant at the .01 level.

No significant differences were found between the three attitude groups and the importance given to the total set of cognitive domain objectives, nor to those objectives at each of the six taxonomic levels within the cognitive domain. It is interesting to note that the F statistic obtained for the relationship between the three teacher attitude groups and the importance given to the objectives at the cognitive level of knowledge was 2.83, which was the highest F statistic obtained for any level within the cognitive domain, and suggests that a relationship does exist between the teachers' attitudes toward education and how they rate knowledge level objectives. However, to be significant at the .05 level a F statistic of 3.11 was needed.

Similarly, no significant differences were found between the three teacher attitude groups and the importance given to those objectives at the receiving, responding, valuing, and organization levels

within the affective domain.

Intercorrelations

The Pearson product-moment correlation was used to determine the degree of relationship between the three teacher attitude scores and the ratings given to all cognitive and affective domain objectives. A number of these relationships were statistically significant at the .05 level and above. The most significant were: the relationship between A minus B scores and the traditional scores, $r = -.95$; the A minus B scores and the progressive scores, $r = .88$; the relationship between the progressive scores and the traditional scores, $r = -.63$; and, the relationship between the total cognitive domain scores and the total affective domain scores, $r = .61$. All of these correlation coefficients were significant at the .01 level.

Biographic Variables and Teacher Attitudes

Chi-square tests of independence were used to investigate the relationships between seventeen biographic variables and teacher attitudes toward education. Only one of these variables, the number of graduate semester hours in social studies, was found to have a statistically significant relationship with teacher attitudes toward education. Significant relationships were not found between teacher attitudes toward education and the sex of the teacher; the age of the teacher; the minority group membership of the teacher; completed

level of education; the number of undergraduate semester hours in social studies; the number of undergraduate semester hours in professional education; the number of graduate semester hours in professional education; the type of teaching certificate held by the teacher; the number of years teaching experience at the elementary level; the number of years of teaching experience at the secondary level; the population of the community in which the teacher was employed; the type of school in which the teacher was employed; the grade levels contained in the school; the present teaching assignment; the school organizational plan; and, the percentage of minority group students in the teacher's classroom.

Conclusions

In light of the hypotheses described and the findings reported the following conclusions appear to be appropriate for this investigation.

1. There was a significant relationship between the teacher's attitudes toward education, progressive and traditional, and the importance given to affective domain objectives. The results of the investigation indicated that the more progressive the teacher the greater the value placed upon affective domain objectives in general and more specifically, the more progressive the teacher the greater the value placed upon those objectives at the highest level in the affective domain, characterization.

2. There was little evidence from the study that the teacher's attitudes toward education, progressive and traditional, made a significant difference in the importance given to cognitive domain objectives in general, nor to the objectives at each of the six levels in the cognitive domain. However, it should be noted that even though the relationship between the teacher's attitudes toward education and the importance given to the objectives at the cognitive level of knowledge was not statistically significant at the .05 level, this relationship was the strongest for any level within the cognitive domain, and suggests that the more traditional the teacher the greater the value placed upon those objectives at the lowest level in the cognitive domain.

3. The results of the investigation indicated a significant relationship between the teacher's attitudes toward education, progressive and traditional, and the number of graduate semester hours in social studies. Those teachers in the sample who were classified as being highly progressive had taken more graduate courses in social studies than the middle progressive group and the low progressive/traditional group.

Implications

Although a number of educators, Baker and Popham (1973), Goodlad, et al. (1966), Harnack (1968), Oliver (1965), and Tyler

(1950), among others, have identified the value system of the teacher as being an important factor in the selection and utilization of behavioral objectives, this investigator, in reviewing the literature, did not find any research studies that dealt specifically with this topic. Thus, the value of this investigation was related to providing a clearer understanding of those factors which influence the teacher decision-making process in the selection of behavioral objectives.

The selection and use of behavioral objectives at the classroom level has been characterized by a gap between educational theory and practice (Atkin, 1968). A conflict exists between the types and levels of objectives recommended by curriculum planners for social studies with the emphasis being on higher level cognitive and affective domain behaviors (Gall, 1966; Goodlad, et al., 1966) and the types of objectives teachers select to teach, with the emphasis being on the two lowest levels in the cognitive domain, knowledge and comprehension (Cox, 1971; Miles and Robinson, 1971; Popham, 1969a; Walbesser, 1972).

According to Popham and Baker (1970) the first step in resolving the above conflict should involve; first, an analysis of the value system of the teacher, and second, a taxonomic analysis of the behavioral objectives recommended by curriculum planners and the objectives teachers select to teach. Moreover, they contend that an analysis of the relationship between these two factors should enable

teachers and curriculum planners to identify and to discard those objectives both groups consider unimportant for students to achieve.

Based on the above rationale proposed by Popham and Baker, this study investigated the relationships between teacher attitudes toward education and the types and levels of behavioral objectives teachers consider important for students to achieve.

The findings of this investigation have revealed that the attitudes a teacher holds toward education, progressive and traditional, influence the types and levels of objectives he/she considers important for students to achieve; specifically, those objectives in the affective domain.

If, as this study has revealed, the attitudes a teacher holds toward education influence the decision-making process in the selection of the specific behavioral objectives, and if as Oliver (1965) contends, the teacher makes the final choice as to what will be taught, then the major question for teachers, curriculum planners and state departments of education should be: What implications does this have for school districts which are distributing ready-made sets of behavioral objectives to teachers on which to base their classroom practices?

This question is especially pertinent in light of the findings of this investigation with regard to affective domain objectives. Many of the recent sets of behavioral objectives that are being written and distributed by state departments of education and national curriculum

projects contain a large number of affective domain objectives. If these objectives are going to become the basis for instructional planning, as is being recommended by the sponsoring agencies, then the successful implementation of such objectives is going to have to involve more than just distributing them to teachers. There is a definite need for inservice training programs that not only involve the procedures and methodology needed to implement such objectives, but also that involve the exploration of the teacher's attitudes toward education and behavioral objectives in general, and toward specific types and levels of behavioral objectives.

In order for teachers to successfully teach toward specific learner behaviors the teacher must feel comfortable with and convinced of the value of such behaviors (Baker and Popham, 1973). This is particularly true with regard to learner behaviors in the area of values and attitudes, the affective domain. The fact that such objectives are recommended by authorities in curriculum planning does not guarantee their implementation in the classroom. As Popham and Baker (1970) suggest, teachers need an opportunity to explore their feelings about such objectives, to challenge the desirability of recommended behavioral objectives, and to receive help and support in their implementation. Thus, there is a definite need for inservice programs that deal specifically with these issues.

Recommendations for Further Research

1. This study should be replicated with a larger sample. The findings of this study were limited by the fact that the majority of teachers in the sample held progressive attitudes toward education. Hopefully, a larger sample would contain a more even distribution between progressive and traditional teachers.

2. This study should be replicated with other grade levels and subject areas to ascertain the differences and similarities in the types and levels of behavioral objectives which are considered important for students to achieve.

3. This study dealt with only two factors in the teacher decision-making processes, progressive and traditional attitudes toward education. Research is needed to identify other factors that influence teacher decision-making in the selection and implementation of behavioral objectives.

4. This investigation dealt with the teacher decision-making pro. ss in the selection of behavioral objectives. Decision-making related to other aspects of the use of behavioral objectives in the classroom, such as instructional activities, instructional materials, and evaluation would be an important concern for further research.

5. Research is needed to determine how important teachers feel the behavioral objectives that are being written and distributed by

state departments of education are for students to achieve. This information would point out the differences and similarities between the various groups and hopefully provide a basis for resolving these differences.

6. Research studies need to be conducted that involve students, parents, and other members of the school community to determine what behaviors they consider important for the school to encourage. Such information is especially important when dealing with affective domain behaviors.

APPENDIX

APPENDIX A

Instructions For Behavioral Objectives List

BEHAVIORAL OBJECTIVES

Social Studies - Intermediate (4-6)

The following (pages 1-9) is a list of 130 behavioral objectives that were selected from sets of behavioral objectives that were written by teachers and social studies consultants for students in grades 4 through 6. These sets of objectives have been used nationally by hundreds of teachers in over 40 school districts.

You are now being asked to respond to each objective by considering how important you feel it is for students in grades 4 through 6 to achieve each of the following objectives.

Instructions for Behavioral Objectives Response Sheet

1. Consider each of the behavioral objectives separately.

2. On the sheets provided, respond to how important you feel it is for students to achieve that specific objective by circling the appropriate number on a continuum from 1 through 5.

Not Important To Achieve				Very Important To Achieve
1	2	3	4	5

3. After completing the Behavioral Objective Response Sheets, please return just these sheets with the General Information Questionnaire and the Educational Scale VI in the stamped self-addressed envelope.

APPENDIX B

General Information Questionnaire

General Information Questionnaire

Please respond to the following questions. Do not sign your name.

1. Sex: Male_____ Female_____

2. Age:
   a) _____20-24
   b) _____25-34
   c) _____35-44
   d) _____45-54
   e) _____55-64.
   f) _____Over 65

3. Are you a member of one of these minority groups?

   a) _____No
   b) _____Black (Afro-American)
   c) _____Chicano (Mexican-American)
   d) _____Native American (American Indian)
   e) _____Other_____

4. Completed level of education:

   a) _____BA and/or BS Degree
   b) _____Some graduate work (number of credit hours_____)
   c) _____MA Degree
   d) _____Some graduate work beyond MA (number of credit hours_____)
   e) _____Ph. D. or Ed D.

5. Number of undergraduate credit hours in the area of social studies (anthropology, economics, geography, history, political science, psychology, sociology): _____

6. Number of graduate credit hours in the area of social studies:

   _____

7. Number of undergraduate credit hours in professional education courses: _____

8. Number of graduate credit hours in professional education courses: _____

9. Teaching Certificate:

   a) _____None
   b) _____Elementary (K-8)
   c) _____Secondary (7-12)
   d) _____Other_____

10. Number of years of teaching experience at the elementary level (K-6): _____

11. Number of years of teaching experience at the secondary level (7-12): _____

12. What is the population of the city or community in which you teach?

   a) _____Less than 10,000
   b) _____10,000 - 50,000
   c) _____50,000 - 100,000
   d) _____100,000 - 500,000
   e) _____500,000 - 1,000,000
   f) _____Over 1,000,000

13. What is the type of school in which you teach?

   a) _____Public School
   b) _____Private School (Parochial School)

14. What grade levels are contained in the school in which you teach (i.e. K-6)? _____

15. What is your current teaching assignment (grade level)? _____

16. What is the type of school organizational plan in which you teach?

   a) _____Self-contained classroom (teach all or the majority of school subjects)

   b) _____Departmentalized (Specialize in one or two subject areas)

   c) _____Other_____

17. What is the approximate percent of minority group students (Afro-American, Mexican-American, American Indian) in your classroom?

a) _____0
b) _____1-20
c) _____21-40
d) _____41-50
e) _____51-60
f) _____61-80
g) _____Over 80

APPENDIX C

Frequency Distribution and Mean of the Rating Given to Each Behavioral Objective by the Total Sample

TABLE 1

FREQUENCY DISTRIBUTION AND MEAN OF THE RATING GIVEN TO EACH OBJECTIVE BY THE TOTAL SAMPLE

Objectives	Rating Scale										Mean
	1		2		3		4		5		
	N	%	N	%	N	%	N	%	N	%	
Cognitive Domain - Level I - Knowledge											
From a given list of reasons, the student will select the reasons that correctly state why countries trade. (1.)	5	5.55	17	18.89	35	38.89	27	30.00	6	6.67	3.13
The student will define [illegible] and identify reasons why slavery in America was usually confined to the black man rather than to the white man or to the Indian. (17.)	3	3.33	20	22.22	29	32.22	32	35.56	6	6.67	3.20
Given a description of a particular occupation, the student will identify skills and competencies, as well as cognitive and affective factors, that relate to that occupation. (18.)	8	8.89	17	18.89	39	43.33	16	17.78	10	11.11	3.03
Given a list of topics and an encyclopedia, an almanac, and an atlas, the student will locate each topic and identify the reference book and the page number where each topic appears. (36.)	10	11.11	18	20.00	28	31.11	17	18.89	17	18.89	3.14
The student will list examples of how state, city, or town governments perform each of the following: (1) provide ordinary services for people, and (2) protect individuals and keep order. (50.)	3	3.33	12	13.33	33	36.67	26	28.89	16	17.78	3.44
Given a list of facts, ideas, and skills, the student will identify the ones that are usually learned formally and those usually learned informally in today's society. (59.)	13	14.44	18	20.00	34	37.78	13	14.44	12	13.33	2.92

(Continued on next page)

TABLE 1--Continued

Objectives	Rating Scale										Mean
	1		2		3		4		5		
	N	%	N	%	N	%	N	%	N	%	
Cognitive Domain - Level I - Knowledge - continued											
Given a book containing the following parts, the student will locate each part and identify the page number where each appears: an index, a table of contents, a list of illustrations, a bibliography and a title page. (60.)	5	5.55	6	6.67	22	24.44	25	27.78	32	35.56	3.81
The student will identify a reason why immigrants from Europe were able to escape discrimination within two or three generations whereas discrimination against Blacks, Indians, Latin Americans, and Orientals has lasted much longer. (67.)	7	7.78	19	21.11	27	30.00	26	28.89	11	12.22	3.16
The student will identify three examples from American history of physical persecution of Indians by whites. (77.)	12	13.33	23	25.56	28	31.11	20	22.22	7	7.78	2.85
The student will demonstrate his knowledge of the discovery and early exploration of the New World by correctly identifying the men involved and selected facts about them. (78.)	7	7.78	24	26.67	28	31.11	22	24.44	9	10.00	3.02
The student will match the structural provisions as established in the Constitution with the appropriate branches of government: legislative, executive, judicial. (Structural provisions include terms of office, elections, powers and duties, etc.) (82.)	7	7.78	22	24.44	36	40.00	16	17.78	9	10.00	2.97

(Continued on next page)

TABLE 1--Continued

Objectives	Rating Scale										Mean
	1		2		3		4		5		
	N	%	N	%	N	%	N	%	N	%	
Cognitive Domain - Level I - Knowledge - continued											
The student will demonstrate his/her knowledge of terms used in conservation by identifying the best definition of the terms from given situations. (86.)	4	4.44	19	21.11	37	41.11	24	26.67	6	6.67	3.10
The student will identify the qualifications or contributions of the following men at the Constitutional Convention: George Washington, Robert Morris, Alexander Hamilton, Benjamin Franklin, James Madison. (95.)	16	17.78	23	25.56	32	35.56	14	15.56	5	5.55	2.65
The student will be able to name some causes of air pollution and identify ways to prevent air pollution. (96.)	1	1.11	5	5.55	31	34.44	35	38.89	18	20.00	3.71
The student will match the following political terms with their definitions: campaign, party, election, ballot, convention, nominate, primary elections, plurality. (108.)	10	11.11	19	21.11	30	33.33	25	27.78	6	6.67	2.97
The student will be able to list the five steps involved in problem solving. (111.)	11	12.22	16	17.78	18	20.00	24	26.67	21	23.33	3.31
The student will demonstrate a knowledge of early colonial settlements and settlers by (a) selecting the person or group who settled and (b) correctly labeling the area settled with the name of the person or group who settled there. (116.)	14	15.56	26	28.89	22	24.44	21	23.33	7	7.78	2.78

(Continued on next page)

TABLE 1--Continued

Objectives	Rating Scale										Mean
	1		2		3		4		5		
	N	%	N	%	N	%	N	%	N	%	
Cognitive Domain - Level I - Knowledge - continued											
The student will be able to define the term generation gap. (121.)	20	22.22	25	27.78	21	23.33	19	21.11	5	5.55	2.60
The student will define, in writing, each of the following economic terms: consumption, production, distribution, trading, pricing, profit, and capital. (122.)	24	26.67	19	21.11	25	27.78	12	13.33	10	11.11	2.61
The student will define the following words as they are used in regard to minorities: persecution, bigotry, intolerance, and prejudice. (126.)	8	8.89	16	17.78	29	32.22	22	24.44	15	16.67	3.22
Cognitive Domain - Level II - Comprehension											
Given a list of statements on colonization, the student will classify them according to the advantages and disadvantages for (1) the mother country, (2) the colonists, and (3) the natives. (10.)	3	3.33	20	22.22	37	41.11	21	23.33	9	10.00	3 --
The student will describe the following plans and compromises made at the Constitutional Convention: the Virginia Plan, the New Jersey Plan, the Connecticut Compromise, the Three-fifths Compromise, the Commerce and Slave Trade Compromise. The description should include what the concern or problem was and the solutions proposed. (16.)	26	28.89	28	31.11	21	23.33	14	15.56	1	1.11	2.28

(Continued on next page)

TABLE 1--Continued

Objectives	Rating Scale										Mean
	1		2		3		4		5		
	N	%	N	%	N	%	N	%	N	%	
Cognitive Domain - Level II - Comprehension - continued											
The student will be able to distinguish between the Articles of Confederation and the Constitution by labeling a series of statements. (21.)	24	26.67	28	31.11	25	27.78	10	11.11	3	3.33	2.33
Given an illustration or a verbal description of the natural environment, the student will identify how man's basic needs have been met through the use or manipulation of the environment. (32.)	2	2.22	10	11.11	33	36.67	30	33.33	15	16.67	3.51
The student will identify two or more reasons why poverty is common among some minority groups. (41.)	1	1.11	14	15.56	38	42.22	19	21.11	18	20.00	3.43
The student will be able to explain how the life of an Indian on a reservation differs from the life of an Indian in a city or town, and tell how both differ from the representations of Indians in movies, on TV, or in stories. (45.)	5	5.55	11	12.22	28	31.11	27	30.00	19	21.11	3.48
Given a list of man's inventions and activities that affect his/her environment, the student will describe the benefits and harms that have resulted from each invention and activity. (48.)	8	8.89	10	11.11	35	38.89	26	28.89	11	12.22	3.24
The student will explain the organization of city and county governments and describe some of the services provided by each to the urban community. (56.)	4	4.44	18	20.00	33	36.67	23	25.56	12	13.33	3.21

(Continued on next page)

TABLE 1--Continued

Objectives	Rating Scale										Mean
	1		2		3		4		5		
	N	%	N	%	N	%	N	%	N	%	
Cognitive Domain - Level II - Comprehension - continued											
The student will explain the meaning of the following words: citizen, right, and duty. (61.)	3	3.33	4	4.44	29	32.22	22	24.44	32	35.56	3.84
From a list of crafts that were common in early settlements, the student will describe how the people used their skills to meet their needs and the needs of others. (72.)	2	2.22	12	13.33	34	37.78	28	31.1.	14	15.56	3.44
Given a description of a particular school activity or area of learning, either cognitive or affective, the student will identify the relationship between that activity or area of learning and possible vocational, avocational, or career pursuits. (73.)	15	16.67	13	14.44	34	37.78	16	17.78	12	13.33	2.96
Given a description of a pluralistic society, the student will identify: (a) some of the groups, particularly ethnic, racial, and religious groups, that are a part of that society and (b) how the various groups are alike and different. (75.)	8	8.89	10	11.11	35	38.89	22	24.44	15	16.67	3.28
Given a list of laws, the student will suggest reasons to explain which laws teenagers are the more likely to break and which ones they are less likely to break. (85.)	8	8.89	12	13.33	32	35.56	31	34.44	7	7.78	3.18
The student will demonstrate his/her ability to use an encyclopedia find facts about a given subject. (100.)	2	2.22	8	8.89	27	30.00	24	26.67	29	32.22	3.77

(Continued on next page)

TABLE 1--Continued

Objectives	Rating Scale										Mean
	1		2		3		4		5		
	N	%	N	%	N	%	N	%	N	%	
Cognitive Domain - Level II - Comprehension - continued											
Given a list of statements, the student will classify them as examples of autocracy or as examples of democracy. (102.)	15	16.67	14	15.56	32	35.56	25	27.78	4	4.44	2.87
The student will be able to recognize causes of poverty in America and groups of people that are poverty-stricken in American society. (105.)	8	8.89	10	11.11	28	31.11	32	35.56	12	13.33	3.33
The student will demonstrate his ability to distinguish among fact, inference, and value judgment by classifying several examples. (109.)	9	10.00	5	5.55	36	40.00	23	25.56	17	18.89	3.37
In each of three examples showing conflict between the adolescent's need for independence and his/her need for dependence, the student will explain how the two needs conflict. (115.)	10	11.11	14	15.56	38	42.22	17	18.89	11	12.22	3.05
Using two examples, the student will explain how parts of the United States differ in culture and social groups. (117.)	3	3.33	15	16.67	34	37.78	19	21.11	19	21.11	3.40
The student will explain orally, in writing, or with diagrams the interrelationship that exists among (1) labor, (2) tools, (3) natural resources, and (4) material human desires. (123.)	11	12.22	17	18.89	27	30.00	23	25.56	12	13.33	3.08

(Continued on next page)

TABLE 1--Continued

Objectives	Rating Scale										Mean
	1		2		3		4		5		
	N	%	N	%	N	%	N	%	N	%	
Cognitive Domain - Level III - Application											
Given a description of a particular occupation, the student will: (1) gather additional information about the nature of that occupation, and (2) know various approaches to and skills for applying for a job related to that occupation. (4.)	6	6.67	11	12.22	38	42.22	21	23.33	14	15.56	3.28
The student will find and use information in a written report, oral report, or role-playing situation to demonstrate at least four methods that Blacks have used to gain their rights in the United States. (6.)	7	7.78	13	14.44	32	35.56	24	26.67	14	15.56	3.27
The student will be able to discuss cases where assembly is clearly protected by the Constitution as interpreted by the Supreme Court and cases where it is not. List the advantages to the individual citizen and to society of protecting freedom of assembly. (9.)	14	15.56	22	24.22	24	26.67	19	21.11	11	12.22	2.90
The student will be able to discuss the changes technology has made in the world of work and predict changes that technology may bring about in the near future. (12.)	2	2.22	8	8.89	22	24.44	38	42.22	20	22.22	3.73
The student will prepare and present a report on the recreational, cultural, educational, and employment opportunities that his/her community provides specifically for youth. The student will discuss the appropriateness of existing facilities to the needs of his/her community. (15.)	6	6.67	21	23.33	30	33.33	17	18.89	16	17.78	3.17

(Continued on next page)

TABLE 1--Continued

Objectives	Rating Scale										Mean
	1		2		3		4		5		
	N	%	N	%	N	%	N	%	N	%	
Cognitive Domain - Level III - Application - continued											
The student will write a paragraph supporting or rejecting the following statement: "Our form of government gives us many political freedoms, but these freedoms are not absolute because there are exceptions to each of them." (23.)	17	18.89	19	21.11	29	32.22	20	22.22	5	5.55	2.74
The student will be able to discuss cases where speech is clearly protected by the Constitution as interpreted by the Supreme Court and cases where it is not. List the advantages to the individual citizen and to society of protecting freedom of speech. (39.)	11	12.22	18	20.00	30	33.33	20	22.22	11	12.22	3.02
The student will identify a problem concerning human resources, find information on the problem, and suggest possible solutions to the problem. (42.)	2	2.22	17	18.89	29	32.22	28	31.11	14	15.56	3.38
With three or more classmates, the student will write and act an original script on "Democracy and Dictatorship in Action." (51.)	21	23.33	24	26.67	21	23.33	15	16.67	9	10.00	2.63
The student will make models or drawings illustrating ideas and new designs that have been advanced to improve and change cities. (69.)	9	10.00	25	27.78	26	28.89	20	22.22	10	11.11	2.96
The student will find information on a problem concerning natural resources in the United States and use the information in a written or oral report. (70.)	6	6.67	7	7.78	36	40.00	28	31.11	13	14.44	3.38

(Continued on next page)

TABLE 1--Continued

Objectives	Rating Scale										Mean
	1		2		3		4		5		
	N	%	N	%	N	%	N	%	N	%	
Cognitive Domain - Level III - Application - continued											
Empathizing with either the rebel or the Royalist (Tory) points of view and values concerning colonial differences with England, the student will discuss how he/she (as a rebel or as a Royalist) would feel about a given issue. (71.)	12	13.33	19	21.11	35	38.89	21	23.33	3	3.33	2.82
The student will be able to discuss examples of people who left Europe to go to the Americas before 1800 for each of the following reasons: religious, economic, and social. (76.)	7	7.78	20	22.22	34	37.78	22	24.44	7	7.78	3.02
Given a brief statement of a problem and a description of a certain type of resource person, the student will present (orally or in writing) several questions which he/she would ask about the given problem. (80.)	4	4.44	13	14.44	31	34.44	26	28.89	16	17.78	3.41
The student will be able to recognize and apply the meaning of the term stereotype by recognizing stereotypes in various statements. (84.)	3	3.33	15	16.67	26	28.89	28	31.11	18	20.00	3.47
The student will write a paragraph describing three actions that the United States government has taken to combat prejudice in America. Also be able to give examples of incidents that he/she has observed and/or heard about that indicate the effectiveness or ineffectiveness of the actions. (103.)	7	7.78	18	20.00	39	43.33	18	20.00	8	8.89	3.02

(Continued on next page)

TABLE 1--Continued

Objectives	Rating Scale										Mean
	1		2		3		4		5		
	N	%	N	%	N	%	N	%	N	%	
Cognitive Domain - Level III - Application - continued											
Given an itemized list of expenditures and the annual income for a family, the student will determine the percent of income spent for each item. (107.)	15	16.67	12	13.33	34	37.78	21	23.33	8	8.89	2.94
The student will present five problems common today to adolescents in their early teens, and present a solution for one of them that will probably be acceptable to most teenagers. (112.)	9	10.00	16	17.78	34	37.78	23	25.56	8	8.89	3.05
The student will find information that supports conclusions about the reasons for riots in American cities during the past decade. (122.)	8	8.89	24	26.67	28	31.11	18	20.00	12	13.33	3.02
Given any subject matter topic, the student will demonstrate the ability to use the card catalog to locate and record the topic's call number. (129.)	5	5.55	8	8.89	36	40.00	19	21.11	22	24.44	3.50
Cognitive Domain - Level IV - Analysis											
Given two different accounts of the events that led to the American Revolution, the student will analyze the statements and identify the possible values, biases, and viewpoints of the author of each account. (7.)	7	7.78	17	18.89	25	27.78	26	28.89	15	16.67	3.27

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TABLE 1--Continued

Objectives	Rating Scale										Mean
	1		2		3		4		5		
	N	%	N	%	N	%	N	%	N	%	
Cognitive Domain - Level IV - Analysis - continued											
By analyzing statements on current issues, the student will demonstrate his/her ability to perceive conflicts among United States political leaders over the purpose and role of government. List current conflicts and conflicts among early American political leaders. (25.)	5	5.55	27	30.00	32	35.56	23	25.56	3	3.33	2.91
The student will analayze this statement: "Increasing the world's food supply will not solve the problem of starvation caused by overpopulation." (33.)	6	6.67	15	16.67	33	36.67	28	31.11	8	8.89	3.18
The student will be able to determine the personal problems involved in a racial conflict on a television program, in a movie, in real life, or in a role-playing situation. (47.)	9	10.00	16	17.78	25	27.78	26	28.89	14	15.56	3.22
By forming generalizations, the student will demonstrate his/her ability to perceive changing attitudes toward education, work, and leisure time and the resultant problems in communities. (49.)	9	10.00	17	18.89	27	30.00	30	33.33	7	7.78	3.10
Given a list of statements, the student will determine statements that might have been made by a speaker for the integration movement and those that might have been made by a speaker for the Black Power movement. (62.)	12	13.33	22	24.44	29	32.22	24	26.67	3	3.33	2.82

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TABLE I--Continued

Objectives	Rating Scale										Mean
	1		2		3		4		5		
	N	%	N	%	N	%	N	%	N	%	
Cognitive Domain - Level IV - Analysis - continued											
The student will be able to demonstrate his/her ability to perceive relationships between political problems and legislative action. (63.)	5	5.55	24	26.67	27	30.00	27	30.00	7	7.78	3.07
From a TV, radio, billboard, or magazine advertisement, the student will identify information that is implied and information that is stated. (87.)	6	6.67	5	5.55	22	24.44	40	44.44	17	18.89	3.63
The student will demonstrate the ability to perceive problems of teenagers by analyzing specific problems on the basis of both experience and information. (94.)	8	8.89	11	12.22	32	35.56	28	31.11	11	12.22	3.25
The student will analyze the use of one of the following by the United States and an undeveloped country: (1) profits and wealth, (2) human resources, (3) technology. (113.)	11	12.22	18	20.00	38	42.22	16	17.78	7	7.78	2.88
Cognitive Domain - Level V - Synthesis											
The student will develop a program of activities that would help eliminate some of the adult-student conflicts in his/her community. (19.)	8	8.89	13	14.44	33	36.67	26	28.89	10	11.11	3.18
The student will develop a strategy or plan that could be followed by a small group of people (5-100) in order to formulate rules and make decisions. (22.)	7	7.78	17	18.89	30	33.33	24	26.67	12	13.33	3.18

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TABLE 1--Continued

Objectives	Rating Scale										Mean
	1		2		3		4		5		
	N	%	N	%	N	%	N	%	N	%	
Cognitive Domain - Level V - Synthesis - continued											
The student will develop a list of criteria that a local legislator might follow to arrive at a stand or a decision on a local problem. (35.)	9	10.00	24	26.67	31	34.44	14	15.56	12	13.33	2.95
The student will develop a policy he/she thinks the United States government should follow with respect to Indian reservations and explain his/her reasons. (44.)	5	5.55	18	20.00	33	36.67	27	30.00	7	7.78	3.14
The student will develop his/her own solution to the problem of poverty and welfare in America. (52.)	11	12.22	18	20.00	30	33.33	23	25.56	8	8.89	2.98
The student will develop a plan for a system of community-supported leisure-time activities that would meet the interests and needs of people of all ages, interests, economic levels, and ethnic groups. (66.)	9	10.00	25	27.78	28	31.11	16	17.78	12	13.33	2.96
The student will develop a list of criteria that a representative to the Constitutional Convention might have followed to arrive at a stand or a decision on solving the problems in uniting the colonies. (79.)	4	4.44	32	35.56	24	26.67	25	27.78	5	5.55	2.94
The student will develop a list of criteria that would aid in determining whether a written, oral, or visual communication is meant to bring about an emotional response or to convey information. (81.)	10	11.11	11	12.22	29	32.22	32	35.56	8	8.89	3.18

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TABLE 1--Continued

Objectives	Rating Scale										Mean
	1		2		3		4		5		
	N	%	N	%	N	%	N	%	N	%	
Cognitive Domain - Level V - Synthesis - continued											
The student will develop a plan for improving the quality of air, water, and sewage disposal in his/her community. Include information concerning cost, time, and effectiveness. (97.)	13	14.44	19	21.11	17	18.89	30	33.33	11	12.22	3.07
The student will develop a plan to overcome or reduce the prejudices of a group of people. (110.)	13	14.44	14	15.56	25	27.78	31	34.44	7	7.78	3.05
Cognitive Domain - Level VI - Evaluation											
The student will evaluate a plan of action that he/she has developed for a national resource problem. (13.)	4	4.44	21	23.33	31	34.44	28	31.11	6	6.67	3.12
The student will research a current ecological program and evaluate its effectiveness according to his/her knowledge of the social, economic, and physical problems involved. (14.)	6	6.67	16	17.78	28	31.11	26	28.89	14	15.56	3.28
The student will evaluate community-supported leisure-time activities on the basis of how well they meet the interests and needs of people of all ages, interests, economic levels, and ethnic groups. (46.)	5	5.55	20	22.22	34	37.78	19	21.11	12	13.33	3.14
Given a rule or law, the student will identify in what ways the rule or law might be changed to improve it and what the consequences of such changes might be. (58.)	4	4.44	9	10.00	27	30.00	30	33.33	20	22.22	3.58

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TABLE 1--Continued

Objectives	Rating Scale										Mean
	1		2		3		4		5		
	N	%	N	%	N	%	N	%	N	%	
Cognitive Domain - Level VI - Evaluation - continued											
The student will be able to compare and contrast proposals that might help solve a problem concerning human resources. (64.)	4	4.44	9	10.00	40	44.44	26	28.89	11	12.22	3.34
The student will demonstrate his ability to draw inferences by evaluating the certainty of selected statements based on evidence in the passage. (68.)	8	8.89	19	21.11	29	32.22	24	26.67	10	11.11	3.10
On the basis of human goals and needs, the student will make judgments about the events that led to the American Revolution. Consider the issues from the viewpoints of the English and of the American colonists. (74.)	6	6.67	17	18.89	32	35.56	24	26.67	11	12.22	3.18
The student will evaluate his/her plan of action that he/she has developed as a possible solution to the adult-student conflicts in his/her community. (99.)	12	13.33	14	15.56	29	32.22	25	27.78	10	11.11	3.07
The student will define a problem of a minority group of his/her choice, and evaluate possible solutions to the problem. (104.)	5	5.55	15	16.67	25	27.78	28	31.11	17	18.89	3.41
The student will be able to make judgments about the progress the United States has made in solving the problems of ethnic groups. (130.)	5	5.55	17	18.89	36	40.00	22	24.44	10	11.11	3.16

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TABLE 1--Continued

Objectives	Rating Scale										Mean
	1		2		3		4		5		
	N	%	N	%	N	%	N	%	N	%	
Affective Domain - Level I - Receiving											
The student will demonstrate an awareness of social problems by being attentive during films, stories, and reports concerning social problems. (2.)	14	15.56	21	23.33	29	32.22	19	21.11	7	7.78	2.82
The student will demonstrate an increased sensitivity to human needs and pressing social problems. (5.)	2	2.22	4	4.44	24	26.67	31	34.44	29	32.22	3.90
The student will show increased sensitivity to the importance of keeping informed on current political and social matters. (28.)	3	3.33	5	5.55	26	28.89	31	34.44	25	27.78	3.77
The student will demonstrate an awareness that there may be more than one acceptable point of view. (54.)	0	0.0	1	1.11	16	17.78	26	28.89	47	52.22	4.32
The student will accept differences of race and culture, among people in our society. (55.)	1	1.11	2	2.22	18	20.00	23	25.56	46	51.11	4.23
The student will demonstrate awareness of the differences between "inquiring" and researching by pointing out that researching involves gathering evidence, but not evaluating it in terms of a basic problem or question. (88.)	4	4.44	6	6.67	42	46.67	21	23.33	17	18.89	3.45
The student will demonstrate a willingness to take part in class discussion and activities. (90.)	2	2.22	4	4.44	13	14.44	35	38.89	36	40.00	4.10

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TABLE 1--Continued

Objectives	Rating Scale										Mean
	1		2		3		4		5		
	N	%	N	%	N	%	N	%	N	%	
Affective Domain - Level I - Receiving - continued											
The student will develop an awareness of the importance of leisure-time activities in an increasing technological society. (93.)	5	5.55	12	13.33	38	42.22	24	26.67	11	12.22	3.26
The student will demonstrate an interest in American history by willingly reading books on the subject. (98.)	12	13.33	16	17.78	26	28.89	24	26.67	12	13.33	3.08
The student will demonstrate the ability to listen to others by paying attention. (125.)	3	3.33	4	4.44	20	22.22	26	28.89	37	41.11	4.00
Affective Domain - Level II - Responding											
The student will show enjoyment in participating in varied types of human relationships and in group activities. (11.)	1	1.11	7	7.78	18	20.00	28	31.11	36	40.00	4.01
The student will voluntarily seek new information about possible career choices and the world of work. (34.)	5	5.55	5	5.55	24	26.67	38	42.22	18	20.00	3.65
The student will demonstrate continuing interest in reading books and periodicals that deal with present-day personal and social problems. (43.)	3	3.33	10	11.11	31	34.44	31	34.44	15	16.67	3.50
The student will participate in group discussions, with a growing awareness of other members of the group. (53.)	1	1.11	4	4.44	16	17.78	31	34.44	38	42.22	4.12

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TABLE 1--Continued

Objectives	Rating Scale										Mean
	1		2		3		4		5		
	N	%	N	%	N	%	N	%	N	%	
Affective Domain - Level II - Responding - continued											
The student will begin to assume responsibility for helping to make class discussions successful. (83.)	1	1.11	5	5.55	15	16.67	32	35.56	37	41.11	4.10
The student will demonstrate a willingness to be of service to the group of which he is a member. (91.)	0	0.0	3	3.33	15	16.67	30	33.33	42	46.67	4.23
The student will exhibit his/her interest in the problems of minority groups by willingly paying attention and asking questions in class. (92.)	6	6.67	16	17.78	25	27.78	21	23.33	22	24.44	3.41
The student will exhibit his/her interest in the problems of pollution by choosing to gather information on his/her own from a variety of sources. (101.)	4	4.44	10	11.11	25	27.78	34	37.78	17	18.89	3.55
The student will exhibit his/her interest in a social problem by asking to present his/her findings to the class. (106.)	10	11.11	19	21.11	26	28.89	26	28.89	9	10.00	3.05
The student will formulate a question for "inquiry" and pursue an investigation leading to resolution by contributing eagerly to class projects and discussions, giving evidence of a developing interest. (124.)	5	5.55	6	6.67	28	31.11	30	33.33	21	23.33	3.62

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TABLE 1--Continued

Objectives	Rating Scale										Mean
	1		2		3		4		5		
	N	%	N	%	N	%	N	%	N	%	
Affective Domain - Level III - Valuing											
The student will demonstrate his/her desire to show the need for individual responsibility in solving the problem of pollution by trying to influence others regarding their responsibilities. (3.)	3	3.33	9	10.00	23	25.56	38	42.22	17	18.89	3.63
The student will demonstrate commitment to challenging the conclusions of others by making an effort to convince others of weaknesses in given inductive arguments based on his/her additional evidence. (20.)	13	14.44	19	21.11	34	37.78	15	16.67	9	10.00	2.86
The student will demonstrate commitment to challenging and questioning resources, evidence and conclusions by expressing criticism and questions freely to the rest of the group. (26.)	8	8.89	9	10.00	34	37.78	23	25.56	16	17.78	3.33
The student will show a development of a value system concerning minority groups by expressing development of insights into his/her own previously-held prejudices which have been provided by the study of minority groups. (37.)	7	7.78	7	7.78	24	26.67	28	31.11	24	26.67	3.61
The student will express a desire to work towards the resolution of conflicts between other students, his/her family, and groups within the community. (57.)	4	4.44	7	7.78	16	17.78	30	33.33	33	36.67	3.90
The student will develop an appreciation of the role of economic factors in his/her own life. (65.)	3	3.33	9	10.00	25	27.78	37	41.11	16	17.78	3.60

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TABLE 1--Continued

Objectives	Rating Scale										Mean
	1		2		3		4		5		
	N	%	N	%	N	%	N	%	N	%	
Affective Domain - Level III - Valuing - continued											
The student begins to develop a sense of responsibility for listening to and participating in class discussions. (114.)	3	3.33	2	2.22	20	22.22	31	34.44	34	37.78	4.01
The student will demonstrate commitment to challenging and questioning resources, evidence and conclusions by being critical of the relation between evidence and conclusion. (118.)	6	6.67	15	16.67	33	36.67	23	25.56	13	14.44	3.24
The student will show a desire to examine a variety of viewpoints on controversial issues with a view of forming opinions about them. (119.)	1	1.11	7	7.78	33	36.67	32	35.56	17	18.89	3.63
The student will demonstrate commitment to challenging and questioning the author's qualifications and attitudes. (120.)	5	5.55	10	11.11	30	33.33	32	35.56	13	14.44	3.42
Affective Domain: Level IV - Organization											
The student will develop a rationale as to the place of an individual citizen in a democracy. (8.)	3	3.33	8	8.89	19	21.11	32	35.56	28	31.11	3.82
The student will form judgments as to the responsibility of society for conserving human and natural resources. (29.)	2	2.22	11	12.22	15	16.67	36	40.00	26	28.89	3.81
The student will begin to form judgments as to the major directions in which American society should move in the next decade. (31.)	7	7.78	12	13.33	29	32.22	31	34.44	11	12.22	3.30

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TABLE 1--Continued

Objectives	Rating Scale 1 N	1 %	2 N	2 %	3 N	3 %	4 N	4 %	5 N	5 %	Mean
Affective Domain - Level IV - Organization - continued											
The student will demonstrate commitment to challenging and questioning resources, evidence, and conclusions by doing so with greater precision and clarity of purpose. (38.)	9	10.00	11	12.22	27	30.00	35	38.89	8	8.89	3.24
The student will demonstrate the ability to judge people of various races, cultures, national origins, and occupations in terms of their behaviors as individuals. (128.)	9	10.00	8	8.89	20	22.22	29	32.22	24	26.67	3.56
Affective Domain - Level V - Characterization											
The student will demonstrate an increased ability to judge problems in terms of situations, issues, purposes, and consequences involved rather than in terms of fixed precepts. (24.)	2	2.22	7	7.78	33	36.67	27	30.00	21	23.33	3.64
The student will demonstrate an expanding view of self and humanity by showing in his/her future discussions an increasingly tolerant attitude toward other value systems. (27.)	2	2.22	6	6.67	22	24.44	30	33.33	30	33.33	3.88
The student will demonstrate an increased ability to approach problems objectively. (30.)	0	0.0	8	8.89	19	21.11	27	30.00	36	40.00	4.01

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TABLE 1--Continued

Objectives	Rating Scale										Mean
	1		2		3		4		5		
	N	%	N	%	N	%	N	%	N	%	
Affective Domain - Level V - Characterization - continued											
The student will show an increased respect for the worth and dignity of others who are different from himself/herself. (40.)	0	0.0	2	2.22	12	13.33	25	27.78	51	56.67	4.38
The student will demonstrate a readiness to revise judgments and to change behavior in the light of additional evidence. (89.)	1	1.11	4	4.44	15	16.67	33	36.67	37	41.11	4.12

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