

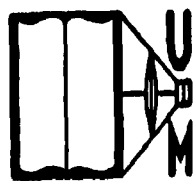
DOCTORAL DISSERTATION SERIES

TITLE AN ANALYSIS OF CERTAIN FACTORS
WHICH AFFECT STUDENT ATTITUDES
TOWARD A BASIC COLLEGE COURSE, EFFECTIVE
LIVING

AUTHOR LAURENCE SAMUEL COOKE

UNIVERSITY MICHIGAN STATE COLL. DATE 1952

DEGREE Ed. D. PUBLICATION NO. 4036



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AN ANALYSIS OF CERTAIN FACTORS WHICH AFFECT STUDENT ATTITUDES
TOWARD A BASIC COLLEGE COURSE, EFFECTIVE LIVING

by

Laurence Samuel Cooke

A THESIS

Submitted to the School of Graduate Studies of Michigan
State College of Agriculture and Applied Science
in partial fulfillment of the requirements
for the degree of

DOCTOR OF EDUCATION

Department of Education

1952

ACKNOWLEDGMENTS

In any investigation involving the appraisal of a large number of students the investigator must rely upon the assistance of many people without whom such a study would be impossible. To these persons, both named and unnamed, the writer offers grateful acknowledgment.

To his advisor, Dr. Walter F. Johnson, the writer wishes to express his gratitude for the patient and wise counsel which he has offered;

To Dr. Leo A. Haak, Professor and Head of the Department of Effective Living, by whose permission this investigation was undertaken:

To the other members of the Guidance Committee Dr. Cecil V. Millard, Dr. Clifford E. Erickson, and Dr. Leonard J. Luker for their helpful suggestions and inspiration:

To Dr. Edward B. Blackman for his careful reading and editing of the thesis:

To the members of the Effective Living staff for their kind assistance in collecting the data.

*

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CHAPTER I

THE PROBLEM

Introduction

Since the close of World War II, more and more young people are extending their education beyond the twelfth grade. Educators are increasingly concerned, not only with housing and teacher shortage problems, but also with a curriculum which meets the needs of our young people today. To meet this curriculum need, educators for the past several years have conducted studies designed to ascertain, if possible, which areas of study should be required of all students in order that they may better meet the demands levied upon them as dynamic, democratic citizens in an ever-changing world.

In the past, and unfortunately in some institutions today, students entering college have been confronted with a rigid curriculum which, supposedly designed to meet the needs of all, actually benefited only a few. Educators in these institutions have not been particularly concerned about student attitudes toward the college or the courses they took.

Statement of the Problem

The present problem developed in this investigation is concerned with an analysis of certain factors which seem to affect student attitude towards Effective Living.

As a possible answer to the curriculum problem, Michigan State College, in 1944, inaugurated The Basic College. Since the Basic College was an experiment, it was admitted at the outset that certain changes would be made when the occasion arose. The original structure consisted of seven basic courses, of which each student was required to take five, and in some cases, six courses. How successful The Basic College approach to this curriculum problem will be, only time will tell. It is difficult to evaluate an educational program without first evaluating its product, the student.

One of the Basic College courses is Effective Living. This course deals primarily with human relations and personal adjustment, and one of the problems confronting the department has been to instill into the students a feeling of need for such a course. Some of the students have expressed a favorable attitude toward the course and others have been unfavorable toward it. It is the opinion of the writer that a student who likes a course receives more benefit from it. The problem, therefore, was to determine what factors affect student attitude toward Effective Living.

It was not intended that this investigation be a "popularity contest" in which the attitude of students towards Effective Living be compared with the attitude of the same students toward other Basic College courses, but rather to determine what factors present influenced student attitude towards Effective Living. It would be impossible to analyze all of the factors present. Therefore it was decided to formulate fifteen hypotheses which seemed to cover some of the more important factors which could be

analyzed. Murphy, Murphy, and Newcomb (27) felt that a study of the various factors could be made and that such a study could prove quite valuable. Kretch and Crutchfield (19) stated that it was very difficult to isolate factors which caused people to have certain attitudes but that it could be done.

The problem of measuring the attitudes of students toward a college course was two fold: (1) the selection of an instrument which would meet the needs of the investigation, and (2) the analysis of some of the factors which seem to determine a student's attitude towards college courses.

The study as outlined is defined in terms of fifteen specific hypotheses:

- (1) Students from rural and rural non-farm communities and students from cities of 100,000 population or over express similar attitudes towards Effective Living.
- (2) Students whose fathers have attended college two or more years and students whose fathers dropped out of school before the eleventh grade express similar attitudes towards Effective Living.
- (3) Students whose fathers are engaged in professional, semi-professional, official and managerial occupations or who own their own businesses other than agriculture, and students whose fathers are in the skilled, semiskilled, and unskilled trades express similar attitudes towards Effective Living.
- (4) Students who have the attitude scale administered to them by their instructor and students who have the attitude scale administered to them by a student from their own class express similar attitudes towards Effective Living.
- (5) Students who sign their names to the attitude scale and students who do not sign their names to the attitude scale express similar attitudes towards Effective Living.

- (6) Students who are freshmen in college and students who are sophomores, juniors, and seniors express similar attitudes towards Effective Living.
- (7) The students of one instructor and the students of other instructors will express similar attitudes towards Effective Living.
- (8) Students in small, discussion classes and students in large lecture classes will express similar attitudes towards Effective Living.
- (9) Male students and female students will express similar attitudes towards Effective Living.
- (10) Students majoring in social science and students majoring in natural science express similar attitudes towards Effective Living.
- (11) Students majoring in natural science and students who are non-preference express similar attitudes towards Effective Living.
- (12) Students majoring in social science and non-preference students express similar attitudes towards Effective Living.
- (13) Students who have chosen their major and non-preference students express similar attitudes towards Effective Living.
- (14) Students who receive A or B term-end marks in Effective Living and students who receive D or F term-end marks in the course express similar attitudes towards Effective Living.
- (15) Students who are in the 25% most favorable group towards the course and students who are in the 25% least favorable group have similar abilities as measured by their ACE scores.

Need for the Study

Most educators agree that no two students are exactly alike. They come from different environments, have different social and economic backgrounds, differ sexually, do not learn at the same rate, have different life goals and values, and are unlike in many other respects. Differences

in attitude toward many things may be attributed to these physical, psychological, and environmental factors.

It is assumed that some relationship does exist between a student's attitude towards a course and his achievements in that course; e.g., if a student has a favorable attitude towards a course, he will probably show more interest in the content, study harder, retain more of the material, and receive a higher mark than if he held an unfavorable attitude. If this favorable attitude is desirable, then an instructor should attempt to ascertain those factors which tend toward the development of a favorable attitude towards his course. He not only will be increasing his understanding of the student but will be more able to aid the student in gaining a better understanding of the course content.

Definition of Terms

Attitude. Many definitions of attitude are found in the literature in this field. The best definition which the investigator found was the one stated by Allport.¹ He defined attitude as,

. . . . a mental and neural state of readiness, organized through experience, exerting a directive or dynamic influence upon the individual's responses to all objects and situations with which it is related.

Opinion. An opinion is merely the verbalization about an attitude.

Course. The course referred to in this investigation is Effective Living, one of the seven basic courses offered at Michigan State College.

1. Allport, Gordon W. "Attitudes". In Murchison, Carl. (Ed.) Handbook of Social Psychology. Clark University Press, Worcester, Mass., 1934, Chapter 17, p. 810.

Student Orientated Classes. These are classes of about fifteen students who meet with their instructor around a large table. The discussion method is used in these classes with the instructor emphasizing the student-centered approach.

Large Classes. These classes are composed of seventy-five to ninety students who meet with their instructor in a large room. The lecture method is used almost exclusively in these classes.

Social Science Majors. Those students who are majoring in such fields as: economics, sociology, political science, social service, history, and all other courses dealing with human relations.

Natural Science Majors. Those students majoring in the biological and physical sciences such as: biology, physics, anatomy, chemistry, mathematics, engineering, medicine, etc.

Non-preference Students. Those students who have not as yet chosen their major field and who have until their junior year to make such a choice.

Rural and Rural Non-farm. Those students who come from farms or from small towns of 2,500 population or under.

The Large Sample Group. Those 850 students who took the attitude scale and in addition filled out the Census Data Sheet.

Census Data Sheet. An information sheet constructed by the writer to gather personal information about the student.

Limitations of the Study

(1) The first limitation of this study was the size and nature of the group to be studied. Fifteen hundred and seventy-nine students,

enrolled in the first term of Effective Living, were selected as the parent population and from this group certain small sample groups were chosen for particular investigations. A large number of the students in the parent group were first-term freshmen who had only recently arrived on the campus and had had little time to formulate any opinions or attitudes towards the college in general or any course in particular. If it had been the desire of the investigator to measure attitude alone, more time would have necessarily been given to the student to make judgments and to form attitudes. Progressive checks could then have been made upon his change in attitude towards the course.

(2) It was also recognized that factors which seemed to affect a student's attitude toward Effective Living would not necessarily affect the same student's attitude toward some other course. For example, students who reacted favorably or unfavorably towards a human relations course in which there were many individual problem-solving situations would not necessarily react in a like manner to a laboratory course or a military course.

(3) There are many factors which affect student attitude towards a course. This study is limited to five main factors: (a) certain home and family background factors; (b) factors in the administration of the scale which might affect attitude; (c) classroom factors, such as, instructor, size of class, etc.; (d) college major factor; and (e) the students' scholastic ability and achievement factor.

Plan of Organization

In the chapters which are to follow the investigator has attempted to give a clear and concise report of his investigation.

Chapter II presents a report on the literature in the field. Only a very few studies similar to the present one have been made. Most of these studies have been at the elementary and secondary levels.

Chapter III is concerned with the design and methodology employed in the investigation. It explains the methods used in the selection of sample groups, and points out the controls and variables and how they were imposed.

Chapter IV explains the construction of the attitude scale and the methods used in establishing its reliability and validity.

Chapter V introduces the first of the hypotheses to be tested. In this chapter an attempt was made: (1) to compare the attitudes towards Effective Living of students coming from rural and rural non-farm communities with the attitudes of students coming from cities of 100,000 population and over; (2) to compare the attitudes toward Effective Living of students whose fathers had attended college two or more years with the attitudes of students whose fathers had dropped out of school prior to the eleventh grade; and (3) to compare the attitude towards Effective Living of students whose fathers were in professional, semi-professional, etc. occupations with the attitude of students whose fathers were in the skilled, semi-skilled, and unskilled trades.

Chapter VI reports the findings from two administrative experiments: (1) a comparison of the expressed attitudes towards the course of

students who had the attitude scale administered to them by one of the students in their class with the attitudes of students who had the scale administered to them by their instructor; (2) a comparison of the expressed attitudes towards the course of students who were asked to sign their names to the attitude scale and students who were asked not to sign their names to the scale.

Chapter VII reports the results of testing some classroom factors: (1) the student's year in college; (2) the student's instructor; (3) the size of the class in Effective Living; and (4) the student's sex.

Chapter VIII reports comparisons of student attitudes towards Effective Living and their college majors. Three groups were studied: (1) social science majors; (2) natural science majors; and (3) non-preference students.

Chapter IX reports the findings when the students' attitudes are compared with their final marks in the course and their linguistic and quantitative ACE scores.

Chapter X contains the summary and conclusions with recommendations for further research.

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CHAPTER II

REVIEW OF THE LITERATURE

The literature which has been reviewed has been chosen because of its pertinence to the particular aspects of this investigation. An enormous amount of research, some good and some bad, has been done in the field of attitude testing. Much of the research, however, has been done in the testing of attitudes towards Negroes, war, communism, C. C. Camps, church attendance, and political issues. To attempt to review all of the literature in the field of attitude testing would involve a considerable amount of time and space. Furthermore, periodic reviews of the literature on attitudes (13,24,31,32,34) which bring together and summarize these studies makes such a procedure unnecessary for the present study.

In order to facilitate clarity in this review of literature, the reviews were divided into three separate areas. Part I is a review of the literature concerning attitudes of college students. Part II is a review of the literature concerning the influence of the home on student attitudes. Part III is a review of the literature concerning the "Thurstone" method of attitude scale construction.

Part I. Review of the Literature Concerning
Attitudes of College Students

Course Content and Attitude Changes

Educators have suspected for some time that course material has some effect on student attitude changes. Barkley (2) found that students taking commercial courses, when tested on their attitude toward evolution and retested after a period of time, showed little or no change in their attitude. Students who had taken biology and chemistry showed a more favorable attitude toward evolution than did the commercial students. All science students were more favorable toward evolution than were commercial students. He also found that those who had studied biology and chemistry were more favorable toward evolution than those who had studied only biology, or chemistry, or mathematics.

In another study, Telford (36), in 1932, undertook an investigation to determine to what extent a semester's training in certain courses at the University of North Dakota had made measurable changes in the avowed attitudes of 141 students towards the treatment of criminals. The courses chosen were general psychology, educational psychology, introductory sociology, and criminology.

Form A of the Wang and Thurstone Scale for measuring attitude toward criminals was given in February, 1932, and Form B of the same scale was given in May of the same year. The results showed that students taking a semester's course in criminology became more humane. Students taking introductory sociology, educational psychology, and general psychology

showed only slight changes in the humane direction, the size of these shifts decreasing in the order listed.

On the high school level, Smith (35) found that there was little evidence in his study of California students that social studies instruction was succeeding in developing in our high-school seniors intelligent attitudes and opinions toward issues basic to citizenship and social betterment beyond those which the seniors share with their parents as a group.

Newcomb (28), in his Bennington College study, found that there was a slight tendency for those students initially least conservative to choose their major work in the social sciences, and for those most conservative to major in science and music. While Major (23) reported, in 1946, that on the measurement of conservative-progressive tendencies of college students after one semester of introduction to education, he found that there was a swing toward progressivism and a tendency on the part of the student to lose some of his personal convictions.

Teaching Techniques and Attitude Change

Billings (4), in 1939, chose 26 Colby College women students who were enrolled in sociology, economics, and religious classes. Another group was chosen at random from the same student body. Both groups were given a scale of beliefs before and after field trips to relief housing projects, health centers, slums, etc. Three years after graduation, Billings administered the same test to the same group. He reports that there was no lasting change and that the experiment did not prove significant.

Discussion sessions are frequently held in human relations courses. The results of such discussions are not consistent among the students. Castore (8) in his study of attitudes of students towards the case method of instruction in a human relations course found that individual instructors do not arouse consistent attitudes in the course of discussion. He found some of the variations to be remarkably great.

Edwards (13) formulated a hypothesis that experience which harmonizes with an existing frame of reference will tend to be learned and remembered better than experience which conflicts with the same frame of reference.

Student attitude toward the New Deal was tested. Out of the 321 students studied, 48 were chosen as in favor of the New Deal, 48 were opposed, and 48 were considered as neutral. A ten-minute speech was read to them. The students were then rated. Twenty-one days later the same test was administered to the same students without previous notice.

The results showed that the speech resulted in little or no change in the subjects' attitudes towards the New Deal. In fact, there was very little apparent change in attitude after a period of three weeks. The speech itself was neutral in that it contained an equal number of favorable and unfavorable statements about the New Deal.

Graham (15), in 1946, reports a study of the relationship between the use of democratic methods in the classroom and democratic attitudes developed. His results showed: (1) the present school children are woefully lacking in many of the attitudes needed in a democratic society; (2) "typical" teaching procedures, even though employed by "superior" teachers, do virtually nothing to develop democratic attitudes; and (3)

there was experimental evidence to support the conclusion that "superior" teachers, using democratic procedures, have a measure of success in establishing democratic attitudes.

Student Attitude Towards Teachers

It is sometimes thought that students who receive high marks in a course have a favorable attitude toward the instructor in the course. Michael, Herrold, and Cryan (26) found no systematic relationship between the scholastic averages of students and their attitude toward the teacher.

Remmers and Drucker (31), in their study of how alumni and students differ in their attitudes toward their instructors, found that there were positive relationships between the relative average rating of instructors by students and alumni. They also found that there was a tendency for present students to rate their instructors a little higher than did the alumni. Their final conclusion was that there was evidence to show that the judgments made by undergraduates of their instructors were valid ones in terms of permanence and maturity.

Intelligence and Student Attitude

Carlson (7), in 1934, reported his study on attitudes of college undergraduates. He used 215 University of Chicago students in his investigation. He tested them on their attitudes towards prohibition, God, pacifism, communism, and birth control. He also studied the relationship between their intelligence and their attitudes towards the same areas.

Carlson found that seniors in the University of Chicago, on the average, were opposed to prohibition, sympathetic toward pacifism and birth control, and neutral toward communism and God. He also found that women were more favorable than men toward prohibition and God but differed little in the areas of pacifism, communism, and birth control. Undergraduates in social science were found to be more favorable to communism and pacifism than majors in physical science. He also found that intelligence was not correlated with attitude toward prohibition, but positively correlated with sympathetic attitudes towards communism, birth control, pacifism, and atheism.

Student Professed Attitudes and Student Behavior

One of the criticisms leveled at attitude testing is that there is no relationship between what a person says and what he does. In 1937 Corey (9) reported on a study which he made concerning the relationship between professed attitudes and actual behavior.

Corey gave the students in his introductory course in educational psychology at the University of Wisconsin five weekly quizzes of 40 to 45 true-false questions each. He also gave them an attitude scale on student cheating. After each of the weekly quizzes, he would collect all the test papers, score them himself, record the grades, and then return them to the students with a statement that he had not been able to correct them. He would then ask the students to correct the papers and give him their scores. This gave the students an opportunity to cheat, if they wanted to. He then compared the scores which he had obtained for each of the students with the scores which they reported to him.

The difference between the score which Corey had recorded originally and the score which the student reported was called the student's cheating score. For example, if Corey found that the student had answered 35 questions correctly and the student reported that he had found 43 questions answered correctly, the student's cheating score would be eight.

Corey found that 24% of the students had no cheating score. One student raised his score on the average of 12 points per test or approximately 25%. In summarizing his findings, Corey stated that the overt behavior of the students, as measured by their own grading, is not related to their attitudinal scores on cheating. In other words, a student who says he is opposed to cheating might cheat if given an opportunity.

Student Attitude Toward a Course

Very little research has been done in measuring student attitude toward a course. The following study was reported by Bee (3) and conducted by two of his students, Alice Smith and Elmer Knowles. The investigation was conducted at Utah State College and at the University of Kansas in 1950. The central purpose of the study was to administer a series of attitude scales as a projective medium to study some basic personality characteristics of students enrolled in a courtship-marriage course; and to seek to relate these patterns to selected cultural, social, and psychological factors in the students' formative experiences.

The courtship-marriage course was open to all students at Utah State but restricted to upper-classmen at Kansas. Class presentations were given as formal lectures. The course contained considerable advanced

theory from anthropology, sociology, psychology, psychiatry, and other fields.

After taking the course, the students were then given an attitude scale which was intended to measure their attitude toward the course. Bee found that there was no student whose general attitude fell on the unfavorable end of the scale, though some students responded unfavorably to some aspects of the course. About one-third of the Utah students and one-half of the Kansas students were "strongly favorable" toward the course. Bee felt that this difference between the one-third Utah students and one-half Kansas students was probably due to the fact that the Kansas sample was made up of upper-classmen who had brought more liberal arts background to the course.

Bee also found that students' attitudes toward such a complex experience as a marriage course were not closely related to any one of the many areas of experience that were taken into consideration. In other words such factors as, religious background and degree of orthodoxy alone, or sex experience and orientation alone were not found to be related to acceptance-rejection of the course.

Bee also reported that a large number of the students from these two institutions strongly favored education for courtship, marriage, and family living; and of those who reported that their parents were aware of their taking the course, nineteen out of twenty reported that their parents were favorable.

Bee recommended that the size of the classes in courtship and marriage courses should be held down in order to provide students a

greater opportunity for more reflective and integrating classroom experiences. He also felt that the lecture methods were of limited value in this field.

While Bee's study was on the college level, another study by Remmers and Ryder (32) was at the secondary school level. This investigation was made of pupils taught by 12 supervised student teachers during the first semester of the academic year, 1936-37. The instrument used for obtaining the data on student attitude toward a course was the Scale for Measuring Attitude Toward Any Course, Form A, developed by Silance and Remmers (33).

The scale was administered twice: the first time, after the student teachers had taught for a few days, and the second time, shortly after the student teachers finished the course, approximately seven weeks later. The student teachers had taught the course every day in the interval.

Five student teachers taught classes in English, four in which were in grammar and composition and the fifth in American Literature. There were three classes in American history, one in European history, and one in civics. There was also one class in first semester biology and another class in second semester algebra. In all, there were 242 pupils in the experimental group and 247 in the control group.

Using the Purdue Rating Scale, Remmers and Ryder found that the attitude of the pupils toward student teachers improved significantly during the training period. It was also found that the students felt that the student teachers had improved during the period of training. Pupils' attitude toward the regular teachers improved during the same period, but not so much as toward the student teacher.

The Silance-Kemmers attitude scale was administered to 200 pupils by the student teachers and to the same number of pupils in parallel classes taught by the regular teachers. The scale was administered at the beginning and at the end of the supervised student teaching period of seven weeks duration in order to measure any change in attitude that may have taken place.

The results showed first, that the pupils' attitudes toward the subject were no worse at the end of the training period than at the beginning. They were, in fact, slightly higher for the group of students measured. Approximately the same amount of improvement occurred in the parallel classes. Neither difference was statistically significant however. Secondly, the results showed that high school pupils have about the same attitude toward the subject under student teachers as under the regular teachers. In the final rating, there was a tendency for the pupils to have a slightly better attitude toward all subjects, except algebra, when taught by the regular teachers than when taught by the student teachers.

Summary of Part I

The findings in Part I were concerned primarily with classroom experiments on attitude change. Various techniques were used, such as, field trips and ten-minute speeches given by the instructor. It was found that students majoring in the scientific fields were more favorable towards evolution than were commercial students; and students taking a semester's course in criminology became more humane than did students who had just finished a course in introduction to sociology, educational

psychology, or general psychology. It was further reported that students who said that they did not believe in cheating were not necessarily honest themselves.

Much research has been done by Kemmers and his collaborators. They found that high school students taught by supervised student teachers held attitudes toward their teachers and toward their courses similar to those of students who were taught by regular teachers.

Part II. Review of the Literature Concerning the Influence of the Home on Student Attitude

The influence of the home on student attitude has been the subject of some research. Probably the most dominant factor in formulating student attitude has been the student's home environment. Smith (35) in his study of California high school students, reported that if schools are to promote and develop social attitudes in harmony with those held by persons best informed on social questions, recognition must be taken of parental attitudes. He advocated the development of coordinated classes for parents and their children to study and discuss public affairs under the guidance of the schools in order that intelligent opinions and unbiased attitudes toward social problems may be developed. Peterson (29) agreed with Smith when he reported that correlations between parents' and childrens' attitudes were all positive and indicated that childrens' attitudes were much like those held by their parents.

Bee (3) reported that attitudes were not statistically significant when compared to any one experience, while Krech and Crutchfield (19)

felt that most attitudes and beliefs are part of a "constellation" of other attitudes and beliefs and that few beliefs and attitudes can be thought of in a state of isolation from other beliefs and attitudes. Thus it seems that while the attitudes which students hold may be the result of their relationships with their parents, it is also probable that some of their attitudes and beliefs are formulated as a result of contact with other segments of their environment.

Hirschberg and Gilliland (17) in their study on parent-child relations in beliefs and attitudes provided some information on the limiting factors which exist between the child and his home environment. These investigators administered three attitude scales to 200 Northwestern University students. Copies of the same scales were sent to the students' parents. They found the following parent-child correlations: attitude toward God, r .29; toward the New Deal, r .59; about the depression, r .42. It was noted that although all the correlations were positive and thus indicated some relationship between the attitudes of the parents and the attitudes of their children, none of the correlations were very high. Particularly significant was the degree of variation between the attitudes (from r .29 to r .59).

Other factors enter into the formulation of attitudes. Cantril (6) found that parents and children differed between economic, education, and age groups. In his study of the Negro problem and government regulation of business, he found that there was a tendency for people who are better educated, better off financially, and who are older to hold their attitudes with greater intensity than those less educated, less secure economically, and younger.

Summary of Part II

In summarizing Part II, the findings seem to indicate that although the parents exert a tremendous influence on the child and his formulation of attitudes and beliefs, there are many other factors which are also important. Such factors as economic security, age, and educational achievement seem to affect the stability and intensity of attitudes.

Part III. Review of the Literature Concerning the Thurstone Method of Attitude Scale Construction

The Thurstone method of scale construction was used by the Board of Examiners in the construction of the attitude scale which was used in the present investigation. Therefore, it seemed advisable to review the literature concerning Thurstone's technique of scale construction and to become more familiar with its strengths and weaknesses.

A pioneering study of scale construction was performed in 1928 by Thurstone and Chaves (37). The aim of scaling was the development or construction of a "measuring" device which would distribute individuals along a continuum running from a highly favorable, through neutral, to a highly unfavorable attitude. The scale to be constructed was expected to measure the attitude of people toward the Church. In setting up the scale, it was first necessary to formulate a number of statements concerning the Church. Some of the important criteria to follow in the formulation of these statements were: (1) The statements should be as brief as possible so as not to fatigue the subjects who were asked to read the whole list. (2) The statements should be such that they could be

endorsed or rejected in accordance with their agreement or disagreement with the attitude of the reader. (3) Every statement should be such that acceptance or rejection of the statement would indicate something regarding the readers' attitude about the issue. (4) "Double-barreled" statements should be avoided except possibly as examples of neutrality. (5) The statements must belong to the attitude variable that was to be measured.

One hundred thirty statements were collected about the Church and the subjects were asked to sort these statements into eleven piles, ranging from those statements which were extremely hostile to the Church to those which were very much in favor of the Church. The 130 statements were mimeographed on small slips, one statement on each slip. After all of the slips had been sorted into piles from A to K (eleven piles), the subjects were asked to return them to the investigators with each pile marked as to its position on the scale. Graphs were constructed for each statement in order to determine the 50% level and the Q -value. It does not seem advisable to give at this time a detailed description of the methods used in arriving at the Q -value. It is sufficient to say that the Q -value was twice the quartile deviation of the distribution of each opinion. The smaller the Q -value, the better the statement; thus, those statements with a high Q -value were eliminated from the scale.

In addition to the Q -value, Thurstone and Chaves set up some other criteria for selecting statements for the scale: (1) The opinions should reflect the present attitude of the subject rather than his attitude in

the past. (2) "Double-barreled" statements should be avoided as ambiguous. (3) Statements which are evidently applicable to a very restricted range of endorsers should not be used. (4) Each opinion selected for the attitude scale should be such that it would not be possible for subjects from both ends of the scale to endorse it. (5) As far as possible, the statements should be free of related and confusing concepts. (6) Slang should be avoided except where it serves the purpose of describing an attitude more briefly than it could otherwise be stated.

After eliminating all the items which did not meet the requirements of the criteria stated above, the investigators came out with forty-five "best" statements. The experimental scale was presented to several hundred subjects. Each statement was assigned a scale value, and the mean scale value for an individual was his "score".

Although Thurstone and Chaves used a 45-item scale as their experimental instrument, McNemar (24) felt that from twelve or fourteen to twenty possible gradations would be sufficient. Droba (11), in his equal-appearing interval scale, used a different method of marking the items. Thurstone and Chave had suggested that each subject check the items with which he agreed; Droba asked his subjects to mark a plus if they agreed, a minus if they disagreed, and a question mark if they were neutral. Likert (20) proposed a method of measuring the intensity of an attitude by constructing a "Likert Scale" which gave the subject a choice of 1 to 5 degrees of intensity of feeling toward any one statement.

Hinkley (16) was concerned with the influence of individual opinion on the construction of a Thurstone type attitude scale. His problem was; (1) the construction of an attitude scale on Negroes, and (2) to test the extent to which this scale was influenced by the opinion of the subjects in the construction of the scale. Hinkley contended that the attitudes of those constructing the scale should not be reflected in the scale value of the items in the scale. Each subject in the construction of the scale must judge as to the degree to which each statement reflects the attitude variable.

Two-hundred students from the University of Florida along with twenty-five Florida professors were asked to submit statements on their opinion of the social position of the Negro. From this list of statements, 230 were chosen, ranging between the two extremes of opinion. The original list was then reduced to 150 statements and sent to Professors Thurstone and Kingsbury, of the faculty of the University of Chicago (1932), and also, to two graduate students, all of whom were thoroughly familiar with the problem of sorting. From the 150 statements, 114 remained after close scrutiny by the people at the University of Chicago.

Eight hundred and fifty subjects were then recruited from nine schools; six hundred white students and 250 Negroes. Practically all of these students were enrolled in some class in psychology, sociology, or education. They were asked to sort the 114 statements into eleven piles, ranging from the most favorable opinion concerning the Negro to the least favorable opinion. The Negro responses were set aside for further

study and the white responses were divided into three groups; most favorable, least favorable and neutral. The neutral group was eliminated and only the two extremes were used. From the two extreme groups, 32 statements were selected according to their low Q -value.

Among the results which need not be reported because of their irrelevance to this study were the scores of the various groups which took the test. However, an interesting result was the reaction of the Negro group and how it effected their sorting of the statements. Hinkley reported that one of the Negro colleges became emotionally wrought up concerning the sorting task, but that their sorting was about the same as that of the white subjects. This might indicate further evidence in favor of the fact that emotional prejudice does not influence the differentiating judgment of the sorter. Hinkley concluded that any scale of attitudes, carefully constructed in accordance with the Thurstone method, will not be affected in its measuring function by the position which the sorters occupy on the scale.

In a follow-up study of Hinkley's, Ferguson (14) reported that at least for the attitude variable (war), a confirmation of Thurstone and Chaves (37) and also of Hinkley (16), that the scale values of the statements in an attitude scale are independent of the attitudes of the judges who are selected to sort the statements which are to make up the scale. Pinter and Forlano (30) also agreed with Ferguson and others concerning the reliability of the sorters.

Pinter and Forlano used a scale for measuring patriotism which had been developed by Thurstone and Theile. Their sample consisted of 411

students enrolled in educational psychology at Teachers College, Columbia University. They found that when a small number of items are to be used, say 20, it is not necessary to put them on separate slips of paper as Thurstone and Chave (35) did, but on one sheet of paper and then have the judges rank them.

In arranging the items in an attitude scale, it was found by Dunlap and Kroll (12) that a serial order of scale value does not affect the mean, the standard deviation, or the reliability coefficient. Also it facilitates the checking of the scale.

In reference to any single item or statement on the Thurstone attitude scale, Krech and Crutchfield (19) reported that the separate items are not customarily of interest in themselves. That is to say, one is not interested in the reaction to a specific, single item, but only in how the reaction of this item can be summed with those many other equivalently weighted items to derive a final scale position. They further stated that nothing is to prohibit the analysis of reactions to a single item, but the usefulness of a scale does not stand or fall on the basis of validity of any single statement.

Remmers and Silance (34) constructed an attitude scale based upon student attitude toward any school subject. In 1934, they reported that statements were collected from three sources: (1) One-hundred college freshmen themes on school subjects liked and disliked. (2) Text books on methods of teaching and other educational literature. (3) Statements written by Ella B. Silance.

In order to sort these statements, the authors called upon 189 college and high school students to do the work. After careful sorting, 150 items were selected, and from these 150 items, two forms, A and B, were constructed. Subsequently they administered the two forms in a variety of situations and with different school subjects (33). Form A correlated with Form B brought a range of .81 to .90. Both high school and college students were involved in these measurements. Attitude toward high school subjects varied in reliability from .84 to .86 for one form, and for college subjects from .81 to .90. It seems evident from these results that the scale might be applied at both the high school and college levels.

Watson and Hartmann (38) in reporting on rigidity of a basic "attitudinal frame", used as their subject, "Belief in a Personal God." Ten students of varying denominational beliefs were selected from the graduate student body of Union Theological Seminary, the Jewish Theological Seminary, and the department of Religious Education at Teachers College, Columbia University. To match them, ten atheists were chosen from different divisions of the Advanced School of Education at Teachers College.

These students were presented with a check list containing forty items pairing theist values with other commonly held values, and ten items pairing active anti-theist values against common values. Since this check list was intended to measure the spread of the subjects' attitudinal frame over a variety of choice situations, it was necessary to include more items for the theist group; because of differing church

affiliations they were expected to have varying concepts of the values inherent in their frame.

Seven steps were followed in collecting the data for this investigation: (1) A check on the original position of each student was made to establish, by the use of a Thurstone scale, any changes from it at the end of the experiment. (2) During the period of "free recall", the subjects were told that they would be given 15 minutes to list as many as possible of the arguments for and against a belief in God. (3) Each student was given the same instructions for this step. He was presented with cards which contained ten pairs of arguments for and against the existence of God. After examining the cards he was asked to evaluate each argument on a three point scale; one, for little or no importance; two, middle position, average effectiveness; and three, for very essential for your position, or which are the opposite, i.e., very disturbing and hard to answer. (4) The subject was given the same twenty arguments, each on a separate card, and asked to rank the arguments from one to twenty. This process gave additional time for fixation of material on the basis of effectiveness and allowed a rough check on individual consistency. (5) A previous check list was included at this point in the procedure to allow for the passage of an interval between the presentation of the arguments and the attempted recall. (6) In this step, the subject was asked to recall as exactly as he could and in complete detail each of the twenty arguments he rated and ranked a few minutes before. (7) The students were then given their original Thurstone sheets to re-check with detailed instructions to indicate their new positions, if any.

Briefly, the results showed no appreciable change. The opposed groups appeared to be just as far apart as before.

Summary of Part III

In summarizing Part III, it appears that the Thurstone technique produces a valid instrument of attitude if administered carefully. McNemar (24) and others have pointed out some of its weaknesses, but a survey of the other techniques of attitude measurement does not reveal any other method which is not without some weakness.

Summary of Chapter II

A review of the literature in attitude measurement, because of the large number of investigations which have been made, had to be confined to those areas pertinent to this study. Three major aspects of the literature were reviewed. Part I dealt with a review of literature concerning attitudes of college students. Part II was a review of the literature pertaining to the influence of the home on student attitudes. Part III was a review of the literature on the Thurstone method of attitude scale construction.

The following points briefly summarize the conclusions which may be drawn from these reviews:

1. Students majoring in the scientific fields and students majoring in the social science fields appear to have measurable differences on the progressive-conservative scale. The science students seem to be more conservative than the social science students.
2. There appeared to be some evidence both for and against the effect which college and high school courses exert toward the formation of desirable attitudes.

3. Certain teaching techniques employed by teachers in order to change student attitude were only partially successful.
4. Student attitude toward their teachers was both permanent and mature but was not positively correlated with their scholastic averages.
5. There were some positive correlations between intelligence and attitudes.
6. Overt behavior and professed beliefs did not appear to be positively correlated.
7. When measured by an attitude scale, students in courtship and marriage courses appeared to be favorable toward the courses.
8. High school students taught by student teachers held similar attitudes towards their instructors and towards their courses as did students who were taught by regular teachers.
9. Parents exert a tremendous influence on the child and his formation of attitudes and beliefs, but there appeared to be other factors which were also involved.
10. The Thurstone technique of scale construction in the measurement of attitudes appears to be valid. Other techniques have been devised and have proved to be equally as good.

The following chapter deals with the selection of the students to be studied and the methods of analysis used in measuring the significance of those factors which affect the attitude of college students towards a course.

CHAPTER III

CHAPTER III

METHODOLOGY AND DESIGN

Nature of the Parent Group

Effective Living is one of the seven basic courses offered at Michigan State College. The investigator is a member of the staff teaching this course. Effective Living deals with human problems, and the department head, as well as all the members of the staff, has been interested in research concerned with human relations. Because of these factors, it was decided to use the students in Effective Living classes as the subjects to be studied in this investigation.

Effective Living is divided into three terms. The first term of the course is known as Basic 151; the second term as Basic 152; and the third term as Basic 153. Students generally enroll in the course during the Fall term. Only a few students start the course during the Winter or Spring terms. After discussing the problem of selection of students to be studied with members of the staff and other persons trained in educational research, the author decided that Basic 151 of the Fall, 1951, group would be the most representative. Basics 152 and 153 are generally composed of students who are accelerating their program or students who are repeating the course and, therefore, could not be considered as a good sample. Basic 151 also represented the largest group of the three terms and thus presented a more valid cross-section of the student body enrolled in the Basic College.

This group of students in Basic 151 is referred to as the parent group in this study. From it smaller samples have been selected for special study in specific areas.

An investigation of the parent group revealed that of the 1,579 students studied 58.4% were freshmen, 31.2% were sophomores, 9.3% juniors, and 1.1% were seniors.

Instructors and Section in the Study

In addition to the 1,579 students in the study, sixteen instructors teaching forty-seven sections of the first term of the course participated. These forty-seven sections met at six different hours of the day and on three different day-combinations of the week.

TABLE I
TEACHER AND SECTION DISTRIBUTION

Days of the Week	Time of Day	Number of Section*	Instructors**
Tu.-Th.	8 to 10	7	J,B,M,D,A,K,G
W. - F.	8 to 10	7	D,B,F,E,A,B,G
M. - W.	10 to 12	7	J,C,F,O,A,P,N
Tu.-Th.	12 to 2	3	M,A,I
Tu.-Th.	2 to 4	7	D,C,K,H,G,P,N
W. - F.	2 to 4	7	C,O,K,H,G,P,N
Tu.-Th.	4 to 6	7	L,C,K,H,I,D,N
M. - W.	6 to 8	2	L,I

* Total Sections - 47 **Total Instructors - 16

Selection of Samples within the Parent Group

Although a more detailed analysis of each sample selected in the various parts of the study will be dealt with in the following chapters,

a brief statement concerning the method of selection and the nature of each group is given here.

The number of students in Basic 151 who checked the attitude scale (N=1,579) was considered too large for the analysis of most of the factors. It was decided that a smaller group should be used. Classes which met on different days of the week and on different hours of the day were selected. Also, care was taken that each of the sixteen instructors was represented by at least one of his classes. This group (referred to in the remainder of the study as the "large sample group") was found to include 850 students.

It was necessary for the investigator to obtain certain information from the students concerning their home and family background, their year in college, and their college majors. The students represented in the large sample group (N=850) were used for this purpose. From the information received from the data sheet and from the attitude scale it was found that equal ratios of male and female students existed when compared with the parent group. Also, that there was a corresponding number of freshmen, sophomores, juniors, and seniors between the parent group and the large sample. This would seem to indicate that the large sample group was representative, at least with respect to these variables, with the parent group. Further analysis showed that the mean score of the weighted values on the attitude scale for the two groups had a difference of .002. This would seem to indicate that the difference between the means was not significant and consequently that the large sample group was representative of the parent group.

In establishing the reliability and validity of the attitude scale several tests were made. Two tests for reliability were performed: (1) a test-retest, and (2) an item analysis to determine the variability of the statements. Two tests for validity were made: (1) validation by means of the interview technique, and (2) validation by means of known groups. A more detailed report of the findings will be presented in Chapter IV.

In Chapter V, an analysis is made of the family background of the student. This information was taken from the census sheet which was filled out by the large sample group (850 students).

In Chapter VI, one of the hypotheses to be tested was: "students who sign their names to the attitude scale will express the same favorability towards the Effective Living course as those students who do not sign their name." Two controls were imposed. The instructor variable was controlled by using only those students taught by one instructor. The second variable of time and day was controlled by selecting an instructor who had the widest possible schedule of classes. The result was that the sample consisted of those students taught by Instructor - D. The classes met on Tuesday-Thursday, 8 to 10; Tuesday-Thursday, 2 to 4; Wednesday-Friday, 8 to 10; and on Tuesday-Thursday, 4 to 6.

The second hypothesis in Chapter VI was: "students who have the attitude scale administered to them by their instructor will express the same favorableness towards the Effective Living course as those students who have the scale administered to them by one of the students in the class." The same controls were imposed as in the preceding hypothesis.

Instructor - C's classes were chosen. They met on Monday-Wednesday, 10 to 12; Tuesday-Thursday, 2 to 4; Wednesday-Friday, 2 to 4; and on Tuesday-Thursday, 4 to 6.

Several small samples were used in Chapter VII. However, in comparing the attitude of freshmen with the attitude of students in the upper three years the entire large sample was used. It was found that there were 496 freshmen and 354 sophomores, juniors, and seniors. The hypothesis was that "freshmen would express an attitude towards Effective Living similar to that of sophomores, juniors, and seniors."

In studying the hypothesis that, "students of one instructor would express similar attitudes toward Effective Living as the students of any of the other instructors," the entire Basic 151 group of 1,579 students was used and their attitudes toward the sixteen instructors were analyzed.

Another hypothesis reported in Chapter VII stated that, "students enrolled in small and large sections in Effective Living express similar attitudes toward the course." During the Fall term, 1951, the department set up two small classes whose combined enrollment totaled thirty-two students. The expressed attitudes of these students toward Effective Living were compared with the expressed attitudes of students who were enrolled in two large classes ($N=107$). Although these samples were not compared with the entire parent population on such variables as scholastic aptitude, the assumption of representativeness has been made. This assumption is based upon the fact that the students who enrolled in the two small sections and the two large sections were not informed of the

fact that these were to be small or large classes and that the names of the instructors who were to teach these classes were not known to the students.

Another hypothesis in Chapter VII stated that: "male students and female students express similar attitudes toward Effective Living." The sample used in this investigation was composed of 496 male students and 354 female students (the entire large sample group used in Chapter V).

In Chapter VIII, the sample group used in making comparisons of attitude toward the course was the same large sample as used in Chapter V. The students had been asked to indicate their majors, and if they had not as yet selected a major, to so indicate by identifying themselves as non-preference students.

Upon investigation it was found that there were 193 social science majors; 205 natural science majors; and 249 non-preference students. The hypotheses tested in this chapter were: (1) "Natural science majors and social science majors express similar attitudes towards Effective Living," (2) "Natural science majors and non-preference students express similar attitudes towards Effective Living," (3) "Social science majors and non-preference students express similar attitudes toward Effective Living," and (4) "Students who have chosen their major and non-preference students express similar attitudes toward Effective Living."

The large sample group was used again in Chapter IX. The hypothesis to be studied first was: "Students who receive high marks in Effective Living express the same favorable attitude toward the course as those who receive low marks." Students who received A's and B's for their

term-end marks were compared with the students who received D's and F's. Upon examination it was found that 285 students were in the A-B category and that 181 students were recipients of D's and F's at the end of the fall term.

The second hypothesis in Chapter IX stated that: "Those students who rate Effective Living very high on the attitude scale and those who rate the course very low have similar scores on their ACE test." The large sample group was also used in this study. The upper 25% on the scale was found to be 141 students and the lower 25% came out at 149 students. The Michigan State College Counseling Center administers the American Council Psychological Examination (commonly called the ACE) to all entering students.

The ACE scoring process was changed by the Counseling Center for the fall term, 1951. The ratings from 10 to 1 formerly on the decile basis, were retained but the distribution of individuals in each of the ten categories was changed to more nearly fit the normal curve. It was necessary, therefore, that the writer use only those students who came under this "new" system. Mean scores were determined for each student-group by computing their quantitative scores together and their linguistic scores together. The total or "T" score was not computed because it was not used in the study.

Nature of the Instruments

A more detailed report on each instrument used will be found in the chapters which deal with that particular instrument. Only a brief description is given here.

One of the first problems which the investigator encountered was that of selecting an instrument which could be used in measuring student attitude toward a college course. The Board of Examiners at Michigan State College had constructed such an instrument. The instrument is known as: A Scale to Measure Attitude Toward Any College Course.¹ An analysis of the instrument will be found in Chapter IV which follows. It might be noted here that the scale consists of twenty-one equal-appearing items and was constructed by the use of the Thurstone method. The method of establishing the reliability and validity of this scale is described in Chapter IV along with the results obtained.

Another instrument used was the Michigan State College Teacher Evaluation Sheet.² The evaluation sheet is a product of the Michigan State College faculty and has been in use at the College for a number of years. Seven criteria are used in evaluating the instructor. Each criterion has a five-point scale, and students are asked to check the instructor somewhere along this scale(A,B,C,D,E).

The Census Data Sheet, referred to previously in this chapter was constructed by the writer to aid in the collection of personal data about the student. It was attached to the Board of Examiners' attitude scale and filled out when the students checked the scale. Information requested included the student's name, age, sex, occupation of his father,

1. The attitude scale was constructed by the Board of Examiners but the methodology employed, the statistical procedure and analysis, as well as the findings are those of the investigator. See Appendix A, p. 127.

2. See Appendix A, p. 128.

his father's educational achievement, size of his home community, the student's college major, and year in school.

Method Used in the Collection of the Data

To orient participating staff members, a meeting was held with the department head and the staff of the Effective Living department. At this meeting, the purpose of the study was explained. A copy of each of the instruments (data sheet, Board of Examiners' attitude scale, and the teachers evaluation sheet) was given to each member of the staff. Direction sheets for the administration of the scale and sheets were handed out and explained. Each instructor was given an opportunity to ask questions and make helpful suggestions concerning the administration of the study. No instructor was forced to participate in the study, but each expressed his willingness to cooperate.

Dates and times were then set up for the administration of the instruments. It was decided to wait until the students had had an opportunity to read some of the material in the course, to get acquainted with their instructors, take their mid-term examination, and receive back their grades from the examination before asking them to express their attitude toward the course. All of the information was collected in one week's time so that any variation in attitude due to outside influences would be kept at a minimum. The material for each class was placed in a folder and given to each instructor just before the class meeting. The instructor was asked to read the direction sheet to his students, pass out the attitude scale, read further instructions for marking, collect

the attitude scales, place them back in the folder, and return them to the writer at the close of the class period. These folders were then filed according to the serial number of the classes.

The actual administration period took place two weeks following the mid-term examinations during the Fall term, 1951. This time was selected because enough time had elapsed since the beginning of the term for the student to have formed some kind of opinion concerning the course.

Procedures for Analysis of the Data

The first problem was the determination of some method of scoring the attitude scale. Each of the twenty-one statements on the scale had a weighted value which had been determined by the Board of Examiners. This weighted value varied with the degree of favorableness expressed by the statement toward the course. For example: item 14 on the scale stated: "If I were limited to taking only one course in college, I would select this course as that one." This was considered by the Board of Examiners as a statement which expressed the highest possible degree of favorableness toward the course. Item 14 was given an arbitrary value of twenty-one. The least favorable statement on the scale said: "This course should be thrown out of the curriculum," and was given a weighted value of one.

Each student had been asked to check those items which best expressed his feelings towards the course. In scoring each paper, the items which each student had checked were scored according to the prearranged weighted values for each item.

The items were not arranged in a logical order of favorableness but were listed in a random order. Following are the 21 statements and their weighted value:

1. This course is very beneficial to the majority of the students who take it. (Weighted value of this statement is 17)
2. I am very enthusiastic about this course. (Value - 19)
3. The benefits to be gained from this course hardly justify its existence. (Value - 3)
4. This course does not help students much. (Value - 5)
5. Not enough time is spent on each topic to get the full value of it. (Value - 8)
6. Some parts of this course are very worth-while. (Value - 13)
7. This course does a good job in covering so much material so clearly. (Value 16)
8. This course could be helpful if it were better organized. (Value - 9)
9. There are better courses than this and there are worse courses. (Value - 11; theoretically this would be the neutral item)
10. This is a good course for college students to take. (Value - 15)
11. This course does a fair job. (Value - 12)
12. Students learn very little in this course. (Value - 4)
13. This course, no doubt, has some value for some people. (Value - 10)
14. If I were limited to taking only one course in college, I would select this course as that one. (Value - 21; theoretically this is the most favorable of all the statements on the scale)
15. I don't see how anyone could ever like this course. (Value - 2)
16. This course is too vague. (Value - 6)
17. This course should be thrown out of the curriculum. (Value - 1; this was intended to express the least favorable attitude)

18. The material taught in this course is not detailed enough.
(Value - 7)
19. One should have no difficulty devoting attention to the class work in this course. (Value - 14)
20. It would be hard for anyone to devise a better course than this one. (Value - 20)
21. This course makes a valuable contribution to a college education. (Value - 18)

The total score for each student was determined by adding the weighted values of the items which he had checked. His mean score was determined by taking his total score and dividing it by the number items which he had checked. It was assumed that if his mean score were 11, he held a neutral position towards the course; but if his mean score were above 11, it was assumed that he held a somewhat favorable attitude toward the course. Conversely, if his mean score was below 11, he was considered to have an unfavorable attitude toward the course.

Some other investigators who have used the Thurstone scales have argued that the median should be used in determining the student's score for the scale. The attitude scales of seven instructors' classes were pulled at random from the parent group. These scales were scored by the use of the mean and also by use of the median. The results showed that the mean score for the group was 11.885, and that the median score for the same group was 11.857. By inspection, these two measurements do not appear to be significantly different (.031).

Procedures Used in Determining the Significance of Differences Between the Expressed Attitudes of Two Groups

In comparing the attitudes towards Effective Living of one group of students with those of a second group of students, the difference between the mean scores for the groups was computed. In order to determine the significance of this difference, it was first necessary to determine if the variances of the two groups could be considered equal. Depending upon whether the two variances could be considered equal or unequal, the appropriate t-test (two-tailed) was used.

The equality of the variances was determined by the F-test which involved calculating the ratio of the larger variance to the smaller variance, and referring to an F table (22:62-5) with the appropriate degrees of freedom. In those comparisons where the F-test was not found to be significant at the 5% level (that is, where the evidence indicated that the variances could be considered equal), the t-test was made using the formula:

$$t = \frac{M_1 - M_2}{\sqrt{\frac{N_1 S_1^2 + N_2 S_2^2}{N_1 + N_2 - 2} \left(\frac{1}{N_1} + \frac{1}{N_2} \right)}}$$

where

- M_1 = the mean of one group
- M_2 = the mean of a second group
- N_1 = the number of students in the first group
- N_2 = the number of students in the second group
- S_1^2 = the variance of the first group
- S_2^2 = the variance of the second group

In those comparisons where the F-test was significant at the 5% level (that is, where there was evidence that the variances of the two

groups were not equal), a t-test involving no assumptions about the equality of the variances was made. This test was devised by Cochran and Cox (18:74-5). In this test the variance of each mean is calculated separately. A criterion-t is obtained by computing a weighted mean of the two t-values for the two samples, the weights being the two variances of the respective means. The ratio

$$\frac{M_1 - M_2}{S_{M_1-M_2}}$$

is then compared with the weighted t-value to judge the significance. If the observed-t was found to be greater than the criterion-t, the writer accepted the premise that the means of the two groups compared were significantly different at the 5% level. On the other hand, if the criterion-t was found to be greater than the observed-t, the writer accepted the premise that the difference between the means was not significant.

Evaluation Method Used for the Teacher Evaluation Sheet

The Teacher Evaluation Sheet was composed of seven questions concerning a student's opinion of his instructor's ability as a teacher. Questions #1 and #6 pertained to an evaluation of a course more than an evaluation of an instructor and were not used in this investigation. The other five questions were each followed by a five-point scale ranging from "A" (the most favorable position on the scale) to "E" (the least favorable position). The students had been asked to circle that letter following each question which best expressed their opinion of their

instructor's ability as a teacher. If the students circled "A" the instructor was given five points; "B" was weighted at four points; "C", three points; "D", two points; and "E", one point. The total points for the five questions considered the teacher's score from that particular student. Twenty-five was the most and five the least number of points which an instructor might receive from any single student.

The mean "teacher-evaluation" score was determined by computing the mean score of all the "total scores" from all of that instructor's students. The mean evaluation score was compared to the mean attitude score by means of a rank correlation of all of the sixteen instructors.

Summary of Chapter III

The attitude scale constructed by the Board of Examiners of Michigan State College was administered to 1,579 Basic 151 students during the Fall term, 1951. In the remainder of the study this group shall be referred to as the parent population or group. The entire parent population was used when a comparison was made between the students' attitude towards the course and their evaluation of their instructors ability as a teacher. In all other cases smaller samples were used.

The largest of the smaller samples was 850 students selected from the parent group. The group referred to in the study as the "large sample group" was selected on the basis of time and day of meeting corresponding to the large parent group. Care was taken to see that each of the sixteen instructors teaching Basic 151 was represented. A census data sheet was administered to this group in order to gain information concerning their home and family background, the student's

year in college, and the student's college major. This large sample group was used in the comparisons of male and female student attitude towards Effective Living; freshmen attitude compared with sophomores', juniors', and seniors'; student attitude towards the course and their term-end grades; and in comparing student attitude towards the course with their college majors.

Two smaller samples were used in two other studies. Four sections taught by one instructor were used in the study of expressed attitudes toward the course when the students had the attitude scale administered to them by their instructor and when they had the scale administered to them by another student in the class. The second small sample was composed of students taken from the four sections taught by another instructor in studying the expressed attitudes towards the course when the students were asked to sign the scale and when they were asked not to sign their names to the attitude scale.

Two small classes and two large classes were used in the comparison of expressed attitudes of students towards Effective Living. These classes were taught by two different instructors, and the instructor variable could not be controlled in this instance.

Because of the new system of scoring the ACE installed by the Counseling Center during the Fall term, 1951, it was necessary to limit the number of students compared in this area to the entering freshmen.

In addition to the ACE scores furnished by the Counseling Center it was necessary to collect other information about the students. The following instruments were used:

- (a) A Scale to Measure Attitude Toward Any College Course,
Constructed by the Board of Examiners, Michigan State College.
- (b) The Teacher Evaluation Sheet, Michigan State College.
- (c) A census data sheet constructed by the investigator.

The Board of Examiners' attitude scale is a Thurstone-type scale of twenty-one statements. The statements range from the most favorable to the least favorable. The most favorable statement was given a weighted score of twenty-one and the least favorable, a score of one with the intervening statements receiving corresponding scores according to their favorableness. The "attitude score" of each student was determined by computing the mean of the weighted scores of the statements checked by the student.

In determining whether one group of students was more favorable towards the course than another group of students the F-test was used to determine if the variances of the two groups being compared could be considered equal or unequal. If the variances were not found to be significant, the t-test presented on page 44 was employed. If, however, the variances were found to be significant at the 5% level, the t-test devised by Cochran and Coxe was used.

On the Teacher Evaluation Sheet the student's score or evaluation of his instructor was determined by totaling the circles which he had made. Each circle or letter had previously been given a weighted value from five to one (five for the most favorable and one for the least favorable).

In Chapter IV, which follows, a detailed report of the findings resulting from the reliability and validity tests imposed on the Board's attitude scale will be found.

CHAPTER IV

THE CONSTRUCTION AND ANALYSIS OF THE ATTITUDE SCALE

This chapter is divided into three parts. Part I deals with the work of the Michigan State College Board of Examiners in the development and construction of the attitude scale. Part II reports methods and findings of the writer in establishing the reliability of the attitude scale. Part III reports the methods and findings of the writer in establishing the validity of the scale.

Part I. The Development and Construction of the Attitude Scale by the Michigan State College Board of Examiners

Method Used in Collecting the Items

During the Spring term of 1950, the Board of Examiners of Michigan State College solicited the aid of the Effective Living department of the Basic College in the construction of a scale designed to measure student attitude toward a college course. It was proposed that the students taking the course should write statements concerning their attitude toward the course. Over four hundred students were asked to contribute two kinds of statements:

- (1) A statement or two which represented their own opinion of Effective Living. (It was anticipated that they might be a little reluctant in giving strong statements, particularly, strongly worded unfavorable statements; therefore they were asked to write a second statement).
- (2) The most favorable, and, also, the most unfavorable statement which they had heard someone else make about the course.

On examination, the Board found that the students were not reluctant to write strong statements about the course.

Members of the Board of Examiners and the staff members of the Effective Living department were also asked to contribute statements which they felt might represent various student attitudes towards a college course.

The students' statements and those submitted by the Board and the departmental staff were then collected and edited by the Board. A final group of 121 statements was selected for final judging.

During the Fall term of 1950, the judging took place.

Selection of Items for the Attitude Scale

Approximately one-hundred Basic College instructors were asked to judge the statements. A letter of instructions was sent along with the 121 statements. The statements were typed on individual slips and the instructors were asked to do the following things:

- (1) Sort all statements into eleven different stacks ranging from a stack containing the most favorable comments about a course to a stack containing the most unfavorable comments about a course. These stacks did not need to contain equal numbers of statements.
- (2) After completing the sorting, the instructors were asked to record on the slips for each stack the number of the stack in which the slip appeared. For example, all slips which were placed in the stack least favorable to a course should be marked "number one". Slips placed in the most favorable stack were to be marked "number eleven." Slips which appeared in the intervening stacks should be marked accordingly.
- (3) After all the slips had been marked, the instructors were asked to return them to the Board of Examiners.

In judging whether a statement was unfavorable or favorable, and whether or not it represented a good statement which might be used by all students about any course, the judges were asked to use the following criteria:

- (1) Is the statement applicable to all basic courses?
- (2) Can a student respond to the statement if he has not taken the course?
- (3) Does the statement express an attitude -- not state a fact?
- (4) Can the statement be placed on a scale of favorability?
- (5) Is the statement double-barreled or ambiguous?
- (6) Does the Board have an adequate sample? (Does the group of statements cover the range of things which might be said about basic courses?)
- (7) Is there too much duplication of statements?
- (8) Will a beginning freshmen understand the meaning of the statements?

The statements were then collected by the Board and an analysis was made on each item. It was decided that the technique of item selection suggested by Thurstone and Chave (37) would be used. It will be recalled from the review of this technique in Chapter II that this method suggests the establishment of a mean score for each item by totaling the positions in which it had been placed by the judges and dividing this total by the number of judges. By plotting the distribution on a chart, the quartile ranges were determined and the "Q-value" of each item was determined by subtracting Q_3 from Q_1 . Those statements which had a low Q-value were considered as being good statements in that

there was a relatively unanimous decision on the part of the judges as to the place which the statement should take on the attitude continuum.

The Board felt that a good "Thurstone Scale" should have approximately 21 items on it, ranging from the most favorable item through a neutral point and extending along the scale to the least favorable item.

Establishment of the Attitude Scale

The following items were selected upon the basis of their low Q -value and their relative position on the scale:

TABLE II
 Q -VALUES OF ATTITUDE SCALE ITEMS

Scale Number of Item	Q -Value
1	1.43
2	1.53
3	0.99
4	1.66
5	1.55
6	1.24
7	1.41
8	1.62
9	1.63
10	1.54
11	1.37
12	1.16
13	1.93
14	0.56
15	1.55
16	1.40
17	0.53
18	1.39
19	1.68
20	1.19
21	1.34

It may be noted that the highest κ -value used on the scale is 1.93 for item 13; and the lowest κ -value used was 0.53 for item 17. If a statement were ambiguous, the different judges would have placed it over a wider range on the scale and the κ -value would have been correspondingly higher. If the statement were interpreted with regard to the specific attitude variable rather consistently, and if the statement were concise and uniform in the meaning which it conveyed to judges, then they would have placed it at approximately the same position on the scale, and the κ -value would then be correspondingly smaller.

Part II of this chapter reports the methods used and the ultimate findings in the establishment of reliability for the attitude scale.

Part II. Measurement and Findings on the Reliability of the Attitude Scale

Lindquist (21:577) points out that when giving a test-retest of a measuring instrument the memory of previous responses is likely to be a factor in proportion as (a) the test is short, (b) the test items are distinctive and memorable, and (c) the interval between testings is short. He did feel, however, that a second application of the same test at a later date, when the above mentioned short comings were not present, would provide an adequate correlation of reliability.

Two measurements were taken in the establishment of the reliability of the attitude scale:

- (1) A test-retest of the attitude scale.
- (2) An item analysis of the statements in the scale.

Test-Retest for Reliability

The writer used 122 of his own students in obtaining the correlation between the test and retest. The scale was administered for the first time during the initial meeting of the class for the week. The number of items on the scale and the two days which intervened between the initial testing and the subsequent testing tended to eliminate some of Linquist's objections to this method. The mean score of each student on his first test was matched with the mean score on the second test.

By using the method suggested by McNemar (25:96) the product-moment correlation coefficient was found to be .82. Although this coefficient is not particularly high it does indicate that the scale is fairly reliable.

Item Analysis

The second test was an analysis of the items on the scale by the use of the Flanagan "r" method.¹ The Flanagan "r" table of correlations is set up on the basis of analysis of any multiple of 50 students. Flanagan suggests that the use of the upper 27% and the lower 27% gives a more reliable measure than the usual upper 25% and lower 25%. The writer selected 370 students at random from the parent group, the upper 27% would then number one-hundred, a multiple of 50, and the lower 27%

1. "A Table of the Values of the Product Moment Coefficient of Correlation in a Normal Bivariate Population Corresponding to Given Proportions of Success," John C. Flanagan, 1936 Manual of Procedures, (mimeo), Cooperative Study of Evaluation of the American Council on Education, Washington, D. C. (Feb. 1, 1951).

would number one hundred. The upper group had marked the attitude scale most favorably, and an analysis was made of the items which they had checked and compared with the item which the lower or more unfavorable group had checked.

By using Flanagan's table the following results were found:

TABLE III
ANALYSIS OF ITEMS

Item Number	Number of Responses		Flanagan-r Coefficient	Content Score
	Upper 27%	Lower 27%		
14	14	0	40	21
20	11	0	41	20
2	42	1	69	19
21	90	4	83***	18
1	84	8	75	17
7	36	0	66	16
10	94	8	82	15
19	54	8	55	14
6	80	81	0 *	13
11	15	42	-35	12
9	41	74	-35 **	11
13	22	85	-62	10
8	1	34	-65	9
5	14	55	-45	8
18	0	27	-60	7
16	0	38	-67	6
4	0	35	-65	5
12	0	26	-59	4
3	2	33	-57	3
15	0	10	-40	2
17	0	23	-56	1

* Item #6, the zero or neutral item on the scale

** Item #9, the theoretical neutral item on the scale

*** The most discriminating item

In this investigation the neutral item was found to be #8. Although Item #9 was intended to represent the neutral item, it cannot be said that in any item analysis the neutral point would necessarily fall at this place. If students were found to be favorable towards a course, the neutral point would be expected to appear above the theoretical neutral item and if they were unfavorable towards a course, it would be expected to fall below the neutral item. Rather than referring to the middle item as the neutral point, perhaps it would be better to refer to it as the center of the neutral area.

Table IV shows the percentage of students answering each of the 21 statements. The table represents the responses of the 370 student group used in the above analysis.

In Table IV most of the students are shown to have answered item #6 most frequently, and items #20 and #15 the least number of times. Item #5 was checked by many students from both the favorable and unfavorable groups. This may indicate a fault which modern educators have overlooked to some extent--the fact that students are given too little time to absorb a great amount of material.

Part III. Establishing the Validity of the Attitude Scale

Validity of a scale is determined by whether or not the scale measures that which it was designed to measure. Two tests of validity were used in an effort to determine whether the attitude scale was really measuring student attitude toward a college course.

TABLE IV
PERCENTAGE OF STUDENT RESPONSES FOR
EACH ITEM ON THE SCALE

Item Number	Content Score	Statement	Percent Answering
14.	21	If I were limited to taking only one course in college, I would select this course as the one.	7.5
20.	20	It would be hard for anyone to devise a better course than this one.	5.5
2.	19	I am very enthusiastic about this course.	21.5
21.	18	This course makes a valuable contribution to a college education.	47.0
1.	17	This course is very beneficial to the majority of the students who take it.	40.0
7.	16	This course does a good job in covering so much material so clearly.	18.0
10.	15	This is a good course for college students to take	51.0
19.	14	One should have no difficulty devoting attention to the class work in this course.	31.0
6.	13	Some parts of this course are very worthwhile.	80.5
11.	12	This course does a fair job.	28.5
9.	11	There are better courses than this and there are worse courses.	57.5
13.	10	This course, no doubt, has some value for some people	53.5
8.	9	This course could be helpful if it were better organized.	17.5
5.	8	Not enough time is spent on each topic to get the full value of it.	34.5
18.	7	The material in this course is not detailed enough.	13.5
16.	6	This course is too vague.	19.0
4.	5	This course does not help students much.	17.5
12.	4	Students learn very little in this course.	13.0
3.	3	The benefits to be gained from this course hardly justify its existence.	17.5
15.	2	I don't see how anyone could ever like this course.	5.0
17.	1	This course should be thrown out of the curriculum.	11.0

- (1) Validation by means of the interview technique.
- (2) Validation by means of comparisons of known groups.

Validation by Means of the Interview Technique

Ten students who felt that, "Effective Living was the best course which students could take," and ten students who, "would like to see the course thrown out of the curriculum," were interviewed. Precaution was taken that none of the students to be interviewed were from the writer's classes. It was felt that students taught by the investigator would be reluctant to respond exactly as they felt. Fifty papers, which represented students who had expressed a very favorable attitude toward Effective Living, were mixed together and every fifth paper was drawn from the group. These ten papers represented the ten high (favorable) students to be interviewed. Fifty more papers, representing those in the most unfavorable group, were also mixed together and ten papers selected in a similar manner as the high group. These ten students represented the unfavorable group. Twenty-minute interviews were then scheduled with the ten favorable and ten unfavorable students.

The investigator was not concerned at this point with the students' responses in so far as they reflected their attitudes toward Effective Living, but rather, whether or not the items checked by the students represented their attitudes toward the course. The investigator was also concerned with the mental processes which the students went through in arriving at the decisions they made as to which items they wished to check on the attitude scale.

Bloom and Broder (5) in their recent book state that any person doing research on individual differences who uses tests and questionnaires of various kinds, and who wishes to interpret the results with any degree of accuracy, must investigate the nature of the mental processes underlying the responses themselves.

One of the lower items on the attitude scale appeared to have a disproportionate amount of "favorable" students checking it. This item was #5 which has been mentioned before in this chapter. This item stated that, "Not enough time is spent on each topic to get the full value from it." Also, some of the students checked items which were on the favorable end of the scale and then indicated that the course should be thrown out of the curriculum. It therefore appeared necessary to interview these students to determine, if possible, the mental processes which they had gone through in arriving at these decisions:

Careful notes were taken during the interviews so that an accurate report could be made. In order to get the students to give their responses freely, the interviewer opened the interview with a series of questions and statements which were intended to develop good rapport. An explanation was given concerning the purpose of the interview, and each student was assured that anything he might say about the course or his instructor would be held in the strictest confidence. It was anticipated that some of the students would tend to give only those answers which they felt the interviewer wanted to hear. The results showed, however, that the students felt free to express their own opinions and did so willingly.

From the notes taken by the writer, these are the findings which seem to bear upon the investigation:

- (1) Without exception, the students interviewed stated that the instructor played a very important part in determining their attitude towards the course.
- (2) The students felt that the items on the attitude scale were clear and that they had no difficulty understanding them.
- (3) Item #5 on the attitude scale stated that, "Not enough time was spent on each topic to get the full value of it." This statement appeared at the lower end of the scale and was intended to indicate an unfavorable attitude towards the course. When asked what they meant when they checked this item, the favorable students replied that while they liked the course, they felt that Effective Living was trying to teach too much in too short a time. They also thought that this was true of many of the other courses which they took.
- (4) Six of the ten "unfavorable" students reported that they were sophomores and that they felt the course might be more beneficial for freshmen. They also stated that they would like to take more courses during their sophomore year which dealt directly with their college major. One of the sophomores was a transfer student and had taken a course in psychology at another college. She stated that this course merely repeated what she already knew.
- (5) One student who had marked the statement which read, "This course is very beneficial to the majority of students who take it," had also, checked the statement which said, "This course should be thrown out of the curriculum." When asked if this discrepancy did not seem to show inconsistent thinking, he replied that while he liked the course very much, he planned to transfer to another university where he expected to enter medicine and that this course could not be transferred with credit.
- (6) Four students from the "unfavorable" group felt that more students would like the course if it were not "required." (Effective Living is an elective subject for some students, but some of the "upper schools" require their majors to take it.)
- (7) One student, in making his check marks on the attitude scale, misunderstood the directions and checked the scale according to the way he felt about a course in mathematics.

(Upon investigation, it was found that 15 other students, or 0.9% of the 1,579 students in the study had checked their papers in accordance with their feelings about a course other than Effective Living. These papers were set aside and not used in the study.)

The investigator believes that the interviews did uncover some of the mental processes through which the students had gone in making their selection of items to be checked on the attitude scale. The interview also pointed up some errors which were made which might be avoided in the future administration of the scale. The results seem to show that the instrument is valid in that the students felt that the scale did measure their attitude toward Effective Living.

Validation by Comparison of Known Groups

If a student by his actions indicates that he likes a course or dislikes a course and, when given an attitude scale which is intended to measure student attitude towards a course, marks the scale in accordance with his behavior, one may say that the instrument is valid. Those who have taught school are aware of the fact that some students seem to like their course and others do not. Students make remarks about a course and in many ways display their feelings towards it. The Effective Living staff was asked to hand in to the writer names of as many students as possible who had indicated in some way their attitude toward the course. They were asked to separate the names into two groups, those students who they felt were in favor of the course and those students who seemed to dislike the course. If the students who seemed to like the course had marked their attitude scale accordingly, then it could be said that

the instrument was valid in that it measured what it was supposed to measure. The same was true of the unfavorable group.

Nine of the sixteen instructors returned names of students who they felt had expressed themselves in favor of or opposed to Effective Living.

TABLE V

COMPARISON OF SCALE SCORES FOR GROUPS KNOWN BY THE INSTRUCTORS
TO BE FAVORABLE AND UNFAVORABLE TOWARD EFFECTIVE LIVING

Attitude of Students Towards the Course	Number of Students	Mean	S.D.
Favorable	39	13.923	1.88
Unfavorable	31	10.870	3.28
Diff		3.053	

F-test: 3.04 (significant)

t-test: 4.56 (significant at the 5% level) (form, p. 44)

Table V reports a significant difference between the mean scores of the two groups at the 5% level. Therefore, it can be said that the group which was considered by their instructors to be favorable towards Effective Living was significantly more favorable than the students who were reported as being unfavorable towards the course.

On examination, none of the students who were reported as being favorable had a lower mean score than 9, and ranged upward from 9 to a mean score of 17. The "hunches" which the instructors had about the unfavorable group were not so accurate. The range for the unfavorable students was from a mean score of 4 to 16, which shows that some of the students who the instructors thought were unfavorable toward the course marked their papers more favorably than some of the so-called favorable students.

Summary of Chapter IV

An attempt has been made to give the history surrounding the construction of the Michigan State College, Board of Examiners' Scale of attitudes toward college courses. The scale was developed at Michigan State College in 1950 with the aid of the Effective Living department. Several hundred statements were submitted by students enrolled in Effective Living. Other statements were written by the Effective Living staff and members of the Board of Examiners. These statements were edited by the Board. Approximately one-hundred Basic College staff members were asked to judge these statements. They were asked to place the statements into eleven piles ranging from the most favorable comment about a college course to the least favorable comment. These piles were marked and returned to the Board for further analysis. From the 121 statements which had been judged by the Basic College staff, twenty-one were finally selected because of their low Q-value and arranged on an attitude scale.

A test-retest of the attitude scale ($N=122$) showed a product-moment correlation coefficient of .82. An item analysis showed that the neutral point on the scale was established at item #9, which was on the favorable side of the theoretical neutral point.

Two tests for validity were used. (1) Interviews with students who had taken the scale revealed that they understood the items and that the items checked by them represented their attitude toward Effective Living. Students whose mean scores were from both ends of the continuum were interviewed.

(2) Instructors in the Effective Living department were asked to hand in to the writer the names of those students whom they considered to be favorable or unfavorable toward the course. The results showed a significant difference between the mean scores of the two groups, which would indicate that there was some correlation between the behavior of the students and the way they marked their attitude test. The results also showed that instructors were more skillful in selecting the favorable students than they were in selecting the unfavorable ones.

Chapter V, which follows, is the first of five chapters which report the results of this investigation into the factors which seem to affect a student's attitude towards a college course. Chapter V deals with the students' home and family background and its effect on the students' attitude toward Effective Living.

CHAPTER V

CHAPTER V

THE EFFECT OF STUDENT BACKGROUNDS ON THEIR ATTITUDE TOWARD EFFECTIVE LIVING

For many years educators have been studying the effect of the family upon the behavior of the child. Peterson (29) found that the correlations obtained between parents' and children's attitudes were all positive and indicated that children's attitudes are much like those of their parents. Smith (35:693), in his study of high school seniors in California, reports:

There is little evidence in the present study to indicate that social studies instruction in our schools is succeeding in developing in our high-school seniors attitudes and intelligent opinions toward issues basic to citizenship and social betterment beyond those which the seniors share with their parents as a group.

The implication seems clear that if the schools are to promote and develop social attitudes in harmony with those held by persons best informed on social questions, cognizance must be taken of parental attitudes. There is strongly indicated a need for the development of coordinated classes for parents and their children to study and discuss public affairs under the guidance of the schools in order that there may eventuate intelligent opinions and unbiased attitudes toward significant social problems.

In the present study three aspects of the student's background were studied: (1) The size of his home community; (2) the educational achievement of the student's father; and (3) the father's occupation.

The Size of the Home Community Factor

The sample used in this study consisted of those students who had filled out the census data sheet and composed the membership of the large sample group referred to in Chapter III.

Hypothesis #1 states that students coming from rural and rural non-farm families would express similar attitudes toward Effective Living as students coming from cities of 100,000 population and over. The rural and rural non-farm group was composed of students who came to college from farms or communities of 2,500 population or less.

An analysis of the group showed that there were 149, or 17.5% of the students, who came from rural and rural non-farm homes, and 232, or 27.2% came from cities of 100,000 population and over, most of them from the Detroit, Michigan area.

TABLE VI

RELATIONSHIP OF SIZE OF STUDENTS' HOME COMMUNITIES
TO ATTITUDES TOWARD EFFECTIVE LIVING

Size of Home Community	Number of Students	Mean	S.D.
Rural and Rural Non-farm	149	12.107	2.65
Cities of 100,000 Population and Over	232	11.840	2.81
		Diff.	.267
F-test: 1.12 (not significant)			
t-test: .934 (not significant) (formula, - p. 44)			

From the evidence found here it can be said that the rural and rural non-farm students, and students coming from communities of 100,000 population and over express similar attitudes toward Effective Living.

Fathers' Educational Achievements Factor

The sample used here was the same as used in the previous study on home communities. The fathers of the students were grouped in three

categories, of which only two were studied. The first group was composed of those fathers who had attended college and had completed their sophomore year. The second group was made up of those fathers who had dropped out of school prior to the eleventh grade. The third group, which was not studied, was those fathers whose educational attainment was between the first two groups. It was found that of the total group in the study, 252, or 29.2%, of the students had fathers who had completed the fourteenth grade or more, and 221, or 25.7% of the group, had fathers who had dropped out of school prior to the eleventh grade.

Hypothesis #2 was, "students whose fathers have completed at least two years of college work express similar attitudes towards Effective Living as those students whose fathers dropped out of school prior to the eleventh grade." It was not known "whether the fathers who had attended college would have any affect on the students' attitude towards the course. Nor was it known whether the influence of the fathers' education had caused the students to be more or less favorable toward certain college courses, particularly courses in the field of general education, like Effective Living, which are relatively new.

TABLE VII

STUDENT ATTITUDE TOWARD EFFECTIVE LIVING COMPARED WITH
THEIR FATHERS' EDUCATIONAL ACHIEVEMENTS

Fathers' Educational Achievements	Number of Students	Mean	S.D.
14th. Grade and Over	252	12.202	2.19
Less Than the 11th. Grade	221	11.877	2.78
Diff.		.325	

F-test: 1.61 (significant)

t-test: .44 (not significant) (Cochran-Coxe formula, p. 44)

The evidence presented here indicates that the educational achievement of the students' fathers does not affect the students' attitudes toward Effective Living.

Fathers' Occupation Factor

The same sample as used in the previous two studies was used in this investigation. From the census sheet filled out by the students, information concerning fathers' occupation was collected. The students were then divided into two groups; (1) those whose fathers were engaged in professional, semi-professional, managerial and official, and those who owned their own businesses (other than farming); (2) those whose fathers were engaged in skilled, semi-skilled and unskilled occupations. These classifications were determined with the use of the Dictionary of Occupational Titles.¹ The professional, etc. group is referred to as "Group #1", and the skilled, etc. group is referred to as "Group #2."

Hypothesis #3 was that, "students whose fathers are engaged in professional, semi-professional, managerial and official work, or who own their own businesses (other than farming) express similar attitudes toward Effective Living as do students whose fathers earn their living in the skilled, semi-skilled and unskilled trades."

It was found that there were 270 students or 31.4% of the group studied, whose fathers were in Group #1, and 138 students, or 16.0%, whose fathers were in Group #2.

1. Dictionary of Occupational Titles, Part II, Titles and Codes.
United States Government Printing Office, Washington, D. C.
June, 1939. 330 p.

TABLE VIII

A COMPARISON OF STUDENT ATTITUDE TOWARDS EFFECTIVE LIVING
WITH THEIR FATHERS' OCCUPATION

Occupation of the Father	Number of Students	Mean	S.D.
Group #1, Professional, etc.	270	12.115	2.86
Group #2, Skilled, etc.	138	11.485	2.66
		Diff.	.630
F-test: 1.16 (not significant)			
t-test: 2.17 (significant at the 5% level)			

The evidence presented here shows that students whose fathers are engaged in professional, semi-professional, official and managerial occupations or who own their own businesses other than agriculture are more favorable toward the Effective Living course than are students whose fathers are engaged in the skilled, semiskilled, and unskilled trades.

Hypothesis #3 had stated that there would be no difference between the attitudes of Group #1 and Group #2. Upon examination, however, it was found that there is a significant difference between the means of the two groups. The question then arises, why does the fathers' occupation affect the attitude of their children towards the Effective Living course? Possible answers to the question which seem to point toward some probable reasons:

- (1) The nature of the occupations in Group #1. Men engaged in these vocations need to develop skill in "person to person" relationships. They recognize the value of good human relationships. They may have imparted this understanding for the need of this skill to their children, who in turn recognize the nature of the course and feel that it is a necessary part of their college education.

- (2) Business men recognize the need of "goodwill" if they expect to remain long in business. Goodwill is developed by an adequate understanding of personal problems and an ability to get along with other people. The first term of this course, which the students in this study were taking when they checked the attitude scale, deals primarily with self understanding and psychological adjustment to one's environment.

Group #2 may have been motivated to answer the attitude scale the way they did because of the following reasons:

- (1) It is recognized that good personal relations within this group are essential. However, the primary drive is one of economic and social equality with the upper economic and social groups. This is also true to a certain extent with Group #1, but the difference lies in the fact that theirs is one of maintaining social and economic prestige while in Group #2 it is one of attainment. This drive for advancement, socially and economically, may be the cause for so many of our students wanting to get their degrees in a hurry and get out of college and get a job where they "can earn some money." Students who feel that way about a college education would be less favorable towards a course such as Effective Living.
- (2) Students who are in college to develop a skill which they can sell to some future employer frequently can not see the need for a course in human relations. If Group #2 is from such a group of students, then this may explain their attitude toward Effective Living. Such attitudes may be the result of their home environment which is directly related to their fathers' occupations.

The above four statements are assumptions and are valid only as they represent the subjective observations of the writer.

Summary of Chapter V

Many educators have recognized the influence of the home on the child. This writer has attempted to isolate three factors of the home life of the student and has attempted to analyze their influence on the student's attitude towards Effective Living.

The first factor analyzed was that of the size of the home community. It was found that students who life on farms and rural non-farm communities have about the same attitude towards Effective Living as do students who come from cities of 100,000 population and over. While the size of the high school from which they graduated was not included in the investigation, it might be assumed that there would be a positive correlation between the size of the high school and the size of the community. It might be further assumed that the larger the high school the greater variety of course offered. The greater the number of courses offered, the greater the possibility that a course similar to Effective Living might have been available to the students. And, finally, it might be assumed that students who had taken a course in human relations in high school might be more favorable towards a similar course in college. The results of this study, however, did not show any significant difference between the attitudes of the two groups.

The second factor concerning the home life of the student had to do with the educational achievement of the students' fathers. Two groups of students were compared. First, those students whose fathers had attended college and had completed the sophomore year or more, and secondly, those students whose fathers had dropped out of school prior to the eleventh grade. A comparison of mean-attitude scores of these two groups did not show any significant difference. The mean score for the college group was somewhat higher but not significantly so. It might be assumed that students whose fathers had attended college might have had some influence at home which might cause them to be more favorable toward college courses than those students whose fathers had left

their formal education prior to college. This did not seem to be the case as far as Effective Living was concerned.

The third factor concerning the home life of the student had to do with the father's occupation. Here again, two groups were compared. The first group was composed of those students whose fathers were in professional, semi-professional, and managerial and official work, or who owned their own businesses other than farming. The second group was composed of students whose fathers were engaged in skilled, semi-skilled, and unskilled occupations. A comparison of the mean-attitude scores of the two groups revealed that the professional, etc. group were significantly more favorable towards Effective Living than was the skilled, etc. group. The mean scores were significantly different at the 5% level.

In the writers opinion, some of the possible reasons, for this difference might be summed up as follows:

- (1) The nature of the work done by the professional, etc. group in which their work deals with people. Effective Living deals with human relations. The fathers might have imparted this need for better understanding of human behavior.
- (2) The professional group, generally speaking, have social and economic prestige and security. The laboring group wishes to attain social and economic prestige and security. The difference may lie between the maintenance and attainment of such prestige and security.
- (3) Students whose fathers are in the skilled, etc. group might be motivated to get an education by the material gains which they may receive from it. Students taking Effective Living sometimes have difficulty seeing any relationship between human relations and making a living.

Chapter VI, which follows, deals with the different techniques of scale administration. The purpose of this investigation was to see if there were any differences in the results when the scale was administered in different ways.

CHAPTER VI

CHAPTER VI

ADMINISTRATIVE FACTORS WHICH MIGHT EFFECT STUDENT ATTITUDE

Three home-environment factors have been discussed in the previous chapter. This chapter presents two new factors for analysis. These new factors deal with the administration of the attitude scale. The following two administrative factors are studied: (1) the person who is in charge of the administration of the scale to the class; and (2) whether the student signs the attitude scale or not.

The Effect Which the Person in Charge of the Administration of the Scale Has Upon the Results

Two questions need to be answered: (1) Does the instructor affect the students' expressed attitude towards a course if he administers the scale to his own students? (2) Will students tend to express a less favorable attitude toward a course if the attitude scale is administered by one of their own group?

Hypothesis #4 (#1, #2, and #3 were in Chapter V) stated that "Students who have the attitude scale administered to them by their own instructor will express similar attitudes toward the course as those students who have the scale administered to them by one of the students in their class." It was felt that the influence which an instructor might have over his students might be reflected in their responses, but that this influence would not be a significant one.

The classes taught by Instructor - C were chosen for this study. An attempt was made to eliminate two variables; first, the instructor variable; and second, the time and day variable. The first variable, that of the instructor, was eliminated by using only those classes taught by one instructor. It was assumed that each of his classes would show the same favorableness towards the course if the scale were administered in the same way. However, two classes had the scale administered by Instructor - C and the other two classes had the scale administered by one of the students in the class. The time-day variable was eliminated by using classes which met at different times and on different days. Students meeting at eight o'clock in the morning might not be as favorable towards a course as those meeting at ten o'clock; and students meeting on Monday morning, after a "hard week-end" might not be as favorable towards a course as students meeting on Wednesday.

Class #1 met on Monday and Wednesday from ten to twelve and had the scale administered to them by one of the students in the class. Class #2 met on Tuesday and Thursday from four to six and had the scale administered to them by Instructor - C. Class #3 met on Tuesday and Thursday from two to four and had the scale administered to them by one of the students in the class. Class #4 met on Wednesday and Friday from two to four and had the scale administered to them by Instructor - C.

The mean scores of classes #1 and #3 were combined and a total mean score for the group was determined. This represented the group which had had the scale administered to them by a student. Classes #2 and #4 were combined and their aggregate mean score represented the attitude of

the total group which had had the scale administered to them by Instructor - C.

TABLE IX
EFFECT ON ATTITUDE BY PERSON ADMINISTERING THE SCALE

Administered By	Number of Students	Mean	S.D.
Instructor - C	68	12.602	2.27
Student in the Class	70	11.971	1.59
		Diff.	.631

F-test: 2.03 (significant)

t-test: 1.872 (not significant) (Cochran-Coxe formula)

From the evidence presented here it can be said that in this case there was no significant difference expressed by the students when they had the scale administered to them by their instructor or when they had it administered to them by one of the students in the class.

Effect of Signing Ones Name to the Attitude Scale

The question of whether a student will tend to be more honest and less favorable if his identity is not known, was the next factor to be studied. Murphy, Murphy, and Newcomb (27) pointed out in their book that, if in answering an attitude scale, the identity of the subject is hidden, the investigator might expect a freer and more complete expression of attitudes. They were speaking, however, of attitudes towards sex, religion, war, etc. The writer wanted to determine whether this was also true of the expression of attitude towards a course.

The following hypothesis was drawn up: Hypothesis #5, "Students who sign their names to the attitude scale will express similar attitudes

toward Effective Living as do those students who are asked not to sign their names."

Again, it was necessary to eliminate the instructor and time-day variables. The classes of Instructor "D" were chosen. It was decided that in two of the classes the students were to follow the directions and sign their names to the scale. In the other two classes the students were instructed to ignore the line which said "name" and to leave it blank. A red line had already been drawn through this blank. In order to eliminate the time-day variable as much as possible, the following four classes were used: Class #1 which met on Monday and Wednesday from ten to twelve o'clock, class #2 which met on Tuesday and Thursday from four to six in the afternoon, class #3 met on Tuesday and Thursday from two to four, and class #4 met on Wednesday and Friday from two to four. Classes #1 and #3 were asked to sign their names to the attitude scale in the usual manner, while classes #2 and #4 were asked not to sign their names. The mean scores of classes #1 and #3 were combined and represented the attitude of the "signed" group, while the combined mean scores of classes #2 and #4 represented the attitude of the "unsigned" group.

The evidence presented in Table X shows that students who signed their names to the attitude scale express a more favorable attitude towards the course than did students who did not sign their names.

TABLE X
EFFECT OF SIGNING AND NOT SIGNING THE ATTITUDE SCALE

Students Who	Number of Students	Mean	S.D.
Signed Their Names	72	12.111	2.87
Did Not Sign Their Names	63	9.841	3.49
		Diff.	2.270
F-test: 1.48 (significant)			
t-test: 4.024 (Significant at the 5% level) (Cochran-Coxe formula)			

Summary of Chapter VI

Two factors affecting students attitude toward Effective Living were studied in this chapter. In summarizing the results of these two studies, the following was found:

- (1) Attitude scales administered by the instructor to his class showed the same degree of favorableness towards a course as did those scales which had been administered by a student from the class.
- (2) Students who signed their names to the attitude scale expressed a more favorable attitude toward the course than did those students who were asked not to sign their names to the scale.

Chapter VII, which follows, deals with four new factors which might affect a student's attitude towards a course. They are: (1) the student's year in school; (2) his attitude toward his instructor; (3) the size of his class; and (4) male and female factor.

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CHAPTER VII

INSTRUCTIONAL FACTORS AFFECTING STUDENT ATTITUDE

The Effective Living Department has for several terms been interested in the "sectioning" of students. Freshmen-only sections, married-only sections, small sections, and large sections have been formed and studied. The department has made an earnest effort to find out more about its students. Why do some students learn more than other students? Is it because they have more learning ability? Could it be that students who like a course, learn more in that course? What are some of the factors which seem to affect a student's attitude towards a course? Four factors are studied in this chapter. The factors are: (1) a student's year in college; (2) the instructor whom the student has; (3) the size of the class of which he is a member; and (4) the sex of the student.

The Year In College Factor

Hypothesis #6 stated, "Students express similar attitudes toward the Effective Living course regardless of their year in college."

The sample used in studying the year-in-college factor was the entire large sample group used in Chapter V. It was composed of 496 freshmen and 354 sophomore, junior, and senior students taking the first term of Effective Living. Information concerning the student's year in college was taken from the Census Data Sheet which they had filled out

at the time they had taken the attitude scale. In order to find out whether any marked differences existed between students in certain years in college, it was decided to compare the attitude of the freshmen group against the attitude of the others.

TABLE XI

A COMPARISON OF FRESHMEN STUDENT ATTITUDE TOWARD EFFECTIVE LIVING WITH THE ATTITUDE OF SOPHOMORES, JUNIORS, AND SENIORS

Year in College	Number of Students	Mean	S.D.
Freshmen	490	11.694	2.97
Sophomores, Juniors Seniors	354	12.230	2.40
Diff.		.536	
F-test: 1.23 (significant)			
t-test: 2.913 (significant at the 5% level) (Cochran-Coxe formula)			

The evidence presented above indicates that the sophomores, juniors, and seniors expressed a more favorable attitude towards the Effective Living course than did the freshmen. If repeated experiments should show this to be true, then the course might well become a course offered in the last three years of college rather than being offered to first-term freshmen. There might be some reasons for students who have been in college for more than one year being more favorable toward the course than first-year students. Few high schools offer courses similar to Effective Living. Most people would not consider it as a "traditional" course. Because it is new and different from what students have experienced in high school, they may feel reluctant to accept the course. On the other hand, students who have been in college for more than one

year would possibly have had some "traditional" courses, such as, sociology, psychology, philosophy, and economics which would give them a better understanding of human relations and thus lead the way toward a more favorable attitude toward Effective Living. Thus for them Effective Living might be an integrative course in which they may have an opportunity to relate their knowledge and information gained from the various more academic courses. These are, of course, only assumptions and need further evidence and investigation.

The Instructor Factor

Kemmers and Drucker (31) found that there was a tendency for students to rate their instructors a little higher than alumni do. However, they found a positive correlation between the student and alumni ratings. This would indicate that the impressions which students have about their instructors are lasting and change very little through the years. Castore (8) found some remarkable differences between instructors in the way they taught and student reaction to their teaching. Michael and Herrold (26), on the other hand, found that there was no correlation between scholastic averages and student attitude toward their instructor. This part of the study has to do with a comparison of the attitude which students have toward the course and its relationship to their attitude toward their instructor.

The question arises, do students have a more favorable attitude towards a course if they like their instructor and believe him to be an excellent teacher? Student attitude toward their instructor was

measured with the aid of the Teacher Evaluation Sheet which has been used for many years at Michigan State College. Consultation with those who had the responsibility for its construction indicated that they were not completely satisfied with the instrument, but that it had done an adequate job of teacher evaluation. An examination of the Sheet revealed that items #1 and #6 were evaluating a course rather than an instructor. These items were not used in this study. The remaining five questions were used in evaluating the student's attitude towards his instructor. These are:

- (1) Does the instructor's presentation of subject matter enhance learning?
- (2) Is instructor's speech effective?
- (3) How well does the instructor work with students?
- (4) Does the instructor stimulate independent thinking?
- (5) How does this instructor rank with others you have had?

The students were asked to check each item or question along a five-point scale. "A" on the scale indicated "superior" while "E" at the other end of the continuum signified "inferior."

In order to evaluate the student responses and arrive at a total score for each student, a weighted value was arbitrarily assigned to each letter on the scale, as follows:

"A" was given a value of $\frac{5}{4}$
 "B" was given a value of $\frac{4}{3}$
 "C" was given a value of $\frac{3}{2}$
 "D" was given a value of $\frac{2}{1}$
 "E" was given a value of $\frac{1}{1}$

If a student rated his instructor as "25" it would indicate that he had circled all of the questions at "A" and considered his instructor as being "superior." If the student had rated his instructor as "15" it indicated that he had circled the "C" on all of the questions, or their equivalent, and considered his instructor as being average. If the student had given his instructor a "5" rating he had indicated that his instructor was inferior. Twenty-five were the most points and five were the least points a student could give as his rating of his instructor.

The Teacher Evaluation Sheet was administered to the students along with the attitude scale. They were asked to circle the letters which represented their opinions of their instructor as to his ability as a teacher. The "scale" and "sheet" were handed in at the same time.¹

Hypothesis #7 stated that "Students of one instructor have the same or similar attitudes toward the Effective Living course as do students of any other instructor." In other words, it was assumed that the instructor variant was not significant.

The sample used in this part of the study was the parent group of 1,579 students. This group of students was taught by sixteen different instructors. These instructors were rated by their students on the Teacher Evaluation Sheet.

-
1. If this study were to be made again, it would seem advisable for the two instruments to be administered separately in order that the students would not in any way relate the two. There is a possibility that administering them at the same time may influence the results in such a way that there might result a more positive correlation between the results.

A break-down of the number of classes taught by these sixteen instructors showed:

- (1) One instructor taught only one class.
- (2) Six instructors taught two classes.
- (3) One instructor taught three classes.
- (4) Eight instructors taught four classes.

Three of the instructors were teaching the material for the first time and might be classified as part-time teachers. One of the instructors was a member of the Board of Examiners. One of the instructors also taught in one of the upper schools. The rest of the instructors (11) were full-time teachers and had been over most of the material at least once before. The purpose of this analysis is to show some of the background differences of the group in case any student attitude differences might be attributable to this lack of experience. Also, those instructors who were teaching a small number of students might receive a biased rating due to the size of their sample.

The attitude scale and the teacher evaluation sheet were scored and sorted into instructor piles.

Table XII reveals that none of the students considered the course to be perfect. Five students rated the course "18" out of a possible "21" points, while at the other end of the continuum, three students rated the course as "3" or very unfavorable. Since the scale has not been administered on any other course, it is not known how favorable "18" would be or how unfavorable "3" would be. The mean score for the entire group was found to be 12.070. Theoretically, the neutral point on the

scale was at "11". This might indicate that the students expressed a somewhat favorable attitude towards Effective Living. Further study, however, seems to be indicated in order to determine the true neutral point.

Instructor O received the lowest mean score (10.680). This teacher was one of the "part-time" group. The highest score (13.036) was received by one of the "full-time" instructors who has been teaching for a number of years and has been associated with Effective Living for about five years.

Table XIII reports the findings on the Teaching Evaluation Sheet. The superior teacher was rated "25" by the student and the inferior teacher was rated "5". Forty-four students considered their instructor to be superior. The lowest rating for any of the teachers was "7" given by one student. One of the criticisms offered against the use of the Sheet as a measuring instrument was that there has been a tendency on the part of the students to rate their instructors too high. Theoretically, the average teacher would be given a rating of "15". Actually, the lowest rating, which, incidently, was given to Instructor "O", who was the lowest on the attitude scale, was 15.3. This would seem to indicate that all of the instructors were above average as rated by their students on this evaluation sheet. This "up-rating" of instructors tends to defeat the purpose of teacher evaluation instruments.

As previously mentioned, Instructor - O had the lowest rating. Instructor-H, who ranked first on the attitude scale, ranked third on the teacher evaluation. Instructor-L, another full-time instructor

STUDENT RATING OF COURSE, BY INSTRUCTORS

Favorable					Neutral										Unfavorable					
Raw Score:	21	20	19	18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	Mean*
Instructor-A																				
f					1	8	20	25	17	9	13	10	12	6	3	5		1		11.930
B																				
f					2		6	7	10	10	5	5	8	9	1	1	1		1	11.090
C																				
f					1	10	22	17	23	12	19	12	11	5	4	1	2			12.230
D																				
f				1	3	7	9	14	18	15	11	13	16	2	4	9	10	3		10.970
E																				
f						1	5	6	3	5	3	3	1	5	2					11.761
F																				
f					1	4	6	7	11	8	5	3	5	4	2		3	1		11.550
G																				
f				2	5	8	18	22	22	23	21	12	9	5	6	4	1			12.227
H																				
f				1	2	5	19	21	19	13	10	8	2	1	1	1				13.036
I																				
f					1	4	4	12	13	12	11	10	4	4	3	6				11.523
J																				
f						6	4	9	9	4	8	7	3		3	1	1	1		11.926
K																				
f						10	16	12	6	14	6	13	4	3	3	1	1			12.439
L																				
f					5	3	10	13	6	13	13	1	4	2	2	1	1			12.554
M																				
f					2	4	6	10	9	7	7	1	2	1						12.640
N																				
f					1	13	35	30	24	23	23	12	4	11	4	2	3	2	1	12.345
O																				
f				1	1		5	9	6	6	5	11	8	7	5	4		1	1	10.660
P																				
f					3	8	17	28	29	14	13	11	8	3	4			1		12.604

*Mean for the Staff - 12.070

STUDENT RATING OF INSTRUCTORS ON TEACHER EVALUATION SHEET

Total Score	Superior										Average					Inferior					Mean*
	25	24	23	22	21	20	19	18	17	16	15	14	13	12	11	10	9	8	7	6	
Instructor-A																					
f	3	4	14	11	17	15	23	14	12	4	6	1	3	1							19.6
Instructor-B																					
f		1	3	3	1	4	10	7	7	6	8	3	4	3	3	1	2				16.7
Instructor-C																					
f		2	4	10	17	12	15	18	14	9	11	4	7	5	4		3	1			17.6
Instructor-D																					
f	1	4	8	10	6	11	11	13	14	13	7	8	9	5	4	3	2				17.4
Instructor-E																					
f				1	4	1	3	4	4	1	5	3	3	2		1	2				16.0
Instructor-F																					
f			2	2	2	4	4	13	6	11	2	2	7				2	1			16.6
Instructor-G																					
f	14	11	12	14	23	16	16	11	8	3	1	3	3	3	1	1					20.3
Instructor-H																					
f	5	3	6	15	22	20	11	10	5	2	3										20.4
Instructor-I																					
f	3		2	7	11	13	8	11	8	6	2	3	2		1	1	1				18.6
Instructor-J																					
f	2	2	3	10	12	8	7	5	9	5	1	2									19.7
Instructor-K																					
f	1	7	14	12	11	10	14	5	4	3	5	2	1								20.2
Instructor-L																					
f	1	7	14	10	14	6	5	9	1	1	1	3		1	1	1					21.2
Instructor-M																					
f	1	2	1	6	5	7	10	5	4	3	2			1							19.5
Instructor-N																					
f	10	18	29	26	39	23	16	5	7	5	1	5	1	1							21.0
Instructor-O																					
f	1			3	2	3	6	7	4	6	9	5	4	5	6	1	2		2		15.3
Instructor-P																					
f	2	5	11	19	16	22	22	14	11	7	5	2	1								19.7

* Mean of the Total Staff - 19.049

ranked first (21.1) on the teacher evaluation. The mean score for the entire staff was found to be 19.049, or just above the "B" on the continuum.

Table XIV presents a composite tabulation of the mean scores on both the attitude scale and the evaluation sheet by instructor. It also lists the distribution of the 1,579 students by instructor. It was found that the mean score on the attitude scale was 12.070 for the entire group, a fact which indicated a trend toward the favorable end of the scale away from the theoretical neutral point (11.000). The mean score on the teacher evaluation has been discussed in the previous paragraph.

Each instructor is ranked with the other instructors in Table XV. Instructor-B who ranked 14th. in both the instructor and course ratings, was a part-time teacher. Instructor-F who ranked 13th. in the instructor ratings and 12th. in the course ratings was also a part-time instructor. The average or mean rank for the part-time instructors on the attitude scale was found to be 11.0, while the mean rank for the full-time instructors was 7.4. The mean rank for the part-time instructors on the teacher evaluation was 13.0 and the mean rank for the full-time instructors on the same test was 6.3. These results seem to indicate that the students in the full-time instructors' classes expressed a more favorable attitude towards Effective Living than students in the part-time instructors' classes. It was also found that the students rated the part-time instructors lower than the full-time instructors on the teacher evaluation. The lone exception was found in the case of

TABLE XIV

COMPARISON FOR EACH INSTRUCTOR OF THE MEAN SCORES OF THEIR STUDENTS ON THE ATTITUDE SCALE WITH THEIR MEAN SCORES ON THE TEACHER EVALUATION SHEET

Instructor	Number of Students	Mean of Course Attitude	Mean of Teacher Evaluation
A	130	11.930	19.6
B	66	11.090	16.7
C	139	12.230	17.6
D	135	10.970	17.4
E	34	11.764	16.0
F	60	11.550	16.8
G	158	12.227	20.3
H	103	13.036	20.4
I	84	11.523	18.6
J	56	11.928	19.7
K	91	12.439	20.2
L	74	12.554	21.2
M	50	12.840	19.5
N	188	12.345	21.0
O	72	10.680	15.3
P	139	12.604	19.7
Total 1579 Ave. Mean 12.070 Ave. Mean 19.049			

TABLE XV

RANK CORRELATION BETWEEN THE STUDENTS' ATTITUDE TOWARD EFFECTIVE
LIVING AND THEIR RATING OF THEIR INSTRUCTORS

Instructor	Student Rating	
	Instructor	Course
A*	8	9
B	14	14
C*	11	7
D*	12	15
E	15	11
F	13	12
G*	4	8
H*	3	1
I*	10	13
J*	7	10
K*	5	5
L*	1	4
M	9	2
N*	2	6
O	16	16
P*	6	3

Correlation between Ranks - $Rho = .76$
* Full-time instructors

Instructor-M. This part-time instructor was ranked 9th. on the teacher evaluation and his students were second highest on the attitude-toward-the-course scale.

Using the method suggested by Lindquist (21:247) and McNemar (24:97) a rank correlation coefficient of .76 was found. This indicates that there exists a positive correlation between a student's attitude towards the course and his evaluation of his instructor as a teacher. In other words, if a student likes the way his instructor conducts the class and has respect for his ability, he is inclined to be considerably more favorable toward the course. It is impossible to say which comes first, the favorability towards the course or the favorable attitude towards the instructor.

The Class Size Factor

Bee (3) believed that a course in home and family living should be conducted in small classes. He stated that small classes provide students with greater opportunity for more reflective and integrative classroom experiences. He also felt that the lecture method of presenting the material was of little value when compared with the discussion method.

The Effective Living department has conducted classes in both large and small groups. A study of class size was conducted in 1950-51, but the results of this study are not yet available. The Effective Living building has one room which will seat about ninety students and large classes are held in this room each term. Two of these classes are used in this study. The building also has a room equipped with a large round

table which seats approximately eighteen students. During the fall term of 1951, there were only two of these classes in 151. These two classes were also used in this study. It was not possible to eliminate the instructor variable since no one instructor taught both the large and the small classes and this limitation to the study should be recognized here.

Hypothesis #6 stated, "Students in large formal classes and students in small student-centered classes express similar attitudes toward Effective Living." The more formal lecture method was used in the two large sections and the class discussion method was used in the two smaller classes.

TABLE XVI
ATTITUDES OF STUDENTS IN LARGE AND SMALL SECTIONS
TOWARD EFFECTIVE LIVING

Size of Class	Number of Students	Mean	S.D.
Small	32	13.812	5.24
Large	107	11.850	4.12
		Diff.	1.962
F-test: 1.32 (not significant)			
t-test: 2.48 (significant at the 1% level)			

The evidence presented above shows that students in small classes expressed a more favorable attitude towards Effective Living than did the students in the large sections.

An examination of the attitudes of students in other sections taught by these two instructors showed that there was no significant difference between the instructors (12.439 for the instructor of the

large sections and 12.345 for the instructor of the small sections).

The Male-Female Factor

Hypothesis #9 stated that, "Male and female students express similar attitudes toward the Effective Living course." During the second term of the course, the subject matter deals mainly with courtship, dating, marriage, and marital problems. Some members of the Effective Living staff have suggested that homogenous sectioning of students, such as all male classes and all female classes, might be advisable. This has never been done. However, there may be arguments both for and against this suggestion. The problem involved here, however, was do male and female students hold similar attitudes towards the course?

The 850 student sample group of Chapter V was used in this experiment. It was found from information gained from the Census Data Sheet that there were 476 male students and 374 female students in the group. The mean scores of the two groups were then compared.

TABLE XVII

COMPARISON OF MALE AND FEMALE ATTITUDES TOWARD EFFECTIVE LIVING

Sex of Students	Number of Students	Mean	S.D.
Male	476	11.755	2.81
Female	374	12.105	2.79
		Diff.	.350
F-test:		1.06	(not significant)
t-test:		1.25	(not significant)

The evidence presented here indicates that the male and female students expressed similar attitudes toward the Effective Living course.

Summary of Chapter VII

This chapter was concerned with those factors affecting a student's attitude toward the course which could be controlled by sectioning or section change and were referred to as "instructional factors." The writer selected four factors and formulated hypotheses for each.

Hypothesis #6: "Students express similar attitudes towards the Effective Living course regardless of their year in college." The freshmen students were compared with students who had been in college one or more years. It was discovered that the sophomores, juniors, and seniors were more favorable towards the course than were the freshmen students.

Hypothesis #7: "Students of one instructor express similar attitudes towards Effective Living as do students of any other instructor." The Teacher Evaluation Sheet used at Michigan State College was the instrument employed to measure student rating of the instructors. Arbitrary values were placed on the different points of the evaluation sheet. An instructor who received "25" points was considered to be superior and one who received "5" points was considered inferior. Items #1 and #6 on the evaluation sheet were omitted from the tabulation because they were an evaluation of the course rather than of the instructor. The entire 151 group (1,579) was used in the sample. Sixteen part-time and full-time instructors were rated by their students.

An analysis of the results showed:

- (1) None of the students thought the course was perfect. Out of a possible twenty-one points, the highest rating of the course was eighteen by five students.

- (2) The highest rating of the course was given by students in classes conducted by an experienced, full-time instructor.
- (3) The lowest rating of the course was given by students of an inexperienced, part-time instructor.
- (4) The instructor receiving the highest rating as a teacher was an experienced, full-time instructor.
- (5) The lowest rating received was by an inexperienced, part-time instructor.
- (6) There was a rank correlation of .76 between the students' expressed attitude toward the course and their opinion of their instructors' ability as a person and as a teacher.

Hypothesis #8: "Students in large formal classes express similar attitudes toward Effective Living as do students in small student-centered classes." Two small classes of sixteen students each were compared with two large lecture classes of about 54 students each. An analysis of the results showed that the students in the small discussion groups expressed a more favorable attitude toward the course than did the students in the large lecture classes.

Hypothesis #9: "Male and female students express similar attitudes toward the Effective Living course." The expressed attitudes of 476 male students were compared with the expressed attitudes of 374 female students. The evidence showed that there was no significant difference between the attitudes of males and females toward Effective Living.

Chapter VIII, which follows, reports the "college major factor." Three groups are compared: (1) the non-preference students, (2) the social science majors, and (3) the natural science majors.

CHAPTER VIII

CHAPTER VIII

THE RELATIONSHIP OF THE COLLEGE MAJOR TO ATTITUDE TOWARDS EFFECTIVE LIVING

The writer was unable to find any previous investigations which dealt with a comparison of attitude toward a course with the student's college major. Some investigators had done research designed to measure the relationship between college major and attitudes towards political and social problems. Carlson (7) found, in his study of Chicago University seniors, that undergraduates in social science were slightly more favorable to communism and pacifism than were majors in physical science. Barkley (2) reported, in 1948, on a study in which he found that all science students were more favorable toward evolution than were commercial students. Newcomb (28), in his study of Bennington College students, found that the least conservative students selected the social science studies and the more conservative students chose majors in science and music. The purpose for this part of the study is to determine if there exists any measurable difference of attitude toward Effective Living between social science majors, natural science majors, and non-preference students.

The students were asked to indicate on the Census Data Sheet their college major. They were asked to put down "non-preference" if they had not selected their college major. Eight hundred and fifty student responses were tabulated and separated into four piles; social science, natural science, non-preference, and all others.

Group I - Social Science:

- Anthropology
- Sociology
- Economics
- History
- Psychology
- Philosophy
- Social Service
- Political Science

Group II - Natural Sciences:

- Agriculture
- Forestry
- Geology
- Physics
- Chemistry
- Mathematics
- Engineering
- Pre-medicine
- Pre-dentistry
- Medical Technician
- Nursing
- Veterinary Medicine

Group III - The Non-Preference Students

Group IV - All Others

It was found that, of the 850 students in the sample studied, 205 students or 24% had indicated that they intended to major in the natural sciences; 193 or 23% indicated an interest in the social science fields; and 249 or 29% of the group had not decided on a college major and thus composed the non-preference group.

Carlson (7), Barkley (2), and Newcomb (28) found differences in attitudes between science and social science students. This writer compared social science, natural science, and non-preference students in the following four ways: (1) a comparison of social science and natural science students as to their attitude towards effective Living; (2) a comparison of natural science students and non-preference students as to

their attitude towards the course; (3) a comparison of social science students and non-preference students as to their attitude towards the course; and (4) a comparison of preference students and non-preference students as to their attitude towards Effective Living.

The Social Science and Natural Science Factor

Hypothesis #10: "Social science students and natural science students express similar attitudes towards Effective Living." Although Effective Living is considered a social science, it was not known whether this factor would influence majors in the social science field to be more favorable toward the course.

TABLE XVIII

SOCIAL SCIENCE MAJORS COMPARED WITH NATURAL SCIENCE MAJORS ON THEIR ATTITUDE TOWARDS EFFECTIVE LIVING

College Major	Number of Students	Mean	S.D.
Social Science	193	12.621	2.38
Natural Science	205	11.697	2.64
Diff.		.924	
F-test: 1.23 (not significant)			
t-test: 3.68 (significant at the 1% level)			

The evidence presented in Table XVIII indicates that social science majors have a more favorable attitude towards Effective Living than do students who are majoring in the natural sciences. It is not known whether the fact that Effective Living is a social science course dealing with human relations had any effect on the results. It does not explain why students who are interested in the natural science fields would be

less favorable toward a human relations course than students majoring in the social science field.

The Natural Science and Non-Preference Factor

Hypothesis #11: "Students majoring in natural science and non-preference students have similar attitudes towards the Effective Living course."

TABLE XIX

NATURAL SCIENCE MAJORS COMPARED WITH NON-PREFERENCE STUDENTS
ON THEIR ATTITUDE TOWARDS EFFECTIVE LIVING

College Major	Number of Students	Mean	S.D.
Natural Science	205	11.697	2.84
Non-Preference	249	11.971	2.90
		Diff.	.274
F-test: 1.21 (significant)			
t-test: 1.049 (not significant) (Cochran-Coxe formula)			

The evidence presented in Table XIX indicates that there existed no significant difference between the expressed attitudes of the natural science group and the non-preference group.

The Social Science and Non-Preference Factors

Hypothesis #12: "Non-preference students and social science students express similar attitudes toward the Effective Living course."

The following table reports the findings:

TABLE XX

SOCIAL SCIENCE MAJORS COMPARED WITH NON-PREFERENCE STUDENTS
ON THEIR ATTITUDE TOWARDS EFFECTIVE LIVING

College Major	Number of Students	Mean	S.D.
Social Science	193	12.021	2.38
Non-Preference	249	11.971	2.90
		Diff.	.650
F-test: 1.48 (significant)			
t-test: 2.579 (significant at the 5% level) (Cochran-Coxe formula)			

The evidence presented in Table XX indicates that social science majors are more favorable towards the Effective Living course than are non-preference students.

The Preference and Non-Preference Factor

Hypothesis #13: "Non-preference students and students who have chosen their college major express similar attitudes toward the Effective Living course." The preference group was composed of the social science and natural science students.

TABLE XXI

PREFERENCE STUDENTS COMPARED WITH NON-PREFERENCE STUDENTS
ON THEIR ATTITUDES TOWARD EFFECTIVE LIVING

College Major	Number of Students	Mean	S.D.
Preference	398	12.145	2.57
Non-Preference	249	11.971	2.90
		Diff.	.174
F-test: 1.27 (significant)			
t-test: .773 (not significant) (Cochran-Coxe formula)			

There was no evidence found which would indicate that the preference group was more or less favorable towards Effective Living than the non-preference students.

Summary of Chapter VIII

The question of what effect a student's chosen major has upon his attitude toward Effective Living was investigated in this chapter. Four different comparisons were made:

- (1) Social science majors were compared with natural science majors.
- (2) Natural science majors were compared with non-preference students.
- (3) Social science majors were compared with non-preference students.
- (4) Non-preference students were compared with preference students.

The results showed that:

- (1) The social science majors were more favorable toward Effective Living than were the natural science majors.
- (2) The natural science majors and the non-preference students held about the same attitude toward Effective Living.
- (3) The social science majors were more favorable towards Effective Living than were the non-preference students.
- (4) There was no significant difference between the attitude of the non-preference group and the preference group towards Effective Living.

Chapter IX, which follows, deals with the comparison of student scholastic achievement and abilities with their attitudes toward Effective Living.

CHAPTER IX

CHAPTER IX

A COMPARISON OF STUDENT ATTITUDE WITH FINAL GRADES AND ACE SCORES

This chapter is concerned with the testing of the hypothesis (#14): "Students who receive final marks of A-B and D-F in Effective Living express similar attitudes toward the course;" and (#15): "First-term freshmen students in the upper 25% and lower 25% on the attitude scale have similar abilities as measured by the ACE."

Part I of the chapter will be concerned with the testing of Hypothesis #14 and Part II, with Hypothesis #15.

Part I. A Comparison of Student Attitude with Term-End Marks

Term-End Grade Sample

At the end of the fall term, 1951, the grades for all of the students in the large sample group of 850 students were collected. All of the students in this group who had received A or B for their final mark were put into one group, and all of the students who had received D or F for their final mark were put into a second group. It was found that 285 students were in the A-B group and 181 students were in the D-F group. The "C" students were not included in the study since the hypothesis dealt with only the two extremes of the grade scale.

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Method of Analysis

The attitude scales for the two groups were analyzed in an effort to determine the mean for the A-B group and the mean for the D-F students.

Since the attitude scale was administered to the parent group before the final marks were announced and before the students had taken their term-end test, it may be assumed that the term-end marks did not affect the attitude which the students had expressed on their attitude scale. Whether students receive better marks in Effective Living because they have a favorable attitude towards the course is not known. The writer admits that there are many other factors operating which effect student grades.

TABLE XXII

A COMPARISON OF THE A-B STUDENTS WITH THE D-F STUDENTS ON
THEIR ATTITUDE TOWARDS EFFECTIVE LIVING

Term-End Grade Group	Number of Students	Mean	S.D.
A-B Students	285	12.484	2.46
D-F Students	181	11.492	2.69
		Diff.	.992
F-test: 1.38 (significant)			
t-test: 3.815 (significant at the 5% level) (Cochran-Coxe formula)			

The evidence presented here indicates that A-B students are more favorable towards Effective Living than are the D-F students.

Part II. An Analysis of the ACE Scores of the Upper and Lower 25% of the First-Term Freshmen on the Attitude Scale

As indicated earlier in Chapter III, the ACE scores of entering students were recorded on a decile basis with approximately one-tenth of

the total group in each decile prior to the Fall of 1951. The distribution of Students' scores under the revised procedure is shown in Table XXIII.

TABLE XXIII
ACE SCORING METHOD AT MICHIGAN STATE COLLEGE¹

Derived Score	Approximate Percent of Students Receiving Each Score	Approximate Percent of Students at or Below Each Score
10	1	100
9	3	99
8	8	96
7	16	88
6	22	72
5	22	50
4	16	28
3	8	12
2	3	4
1	1	1

A score of "10" is considered the highest score which a student may receive and only 1% of the students receive this mark. The lowest score is "1" and only 1% of the students are at this level. The largest number of students will be found around the center of the scale with scores of "5" and "6".

The Quantitative² (Q-score) is most significant in measuring abilities in scientific and technical curricula and the Linguistic³ (L-score) is most significant in measuring abilities in language, literature, social sciences, etc.

1. Information prepared by the Michigan State College Counseling Center, Fall term, 1951.

2. Ibid.

3. Ibid.

Method of Analysis

An analysis of the large sample group of 850 students revealed that there were 619 students who had taken the ACE test prior to entering college for the fall term, 1951. Scores for these students were distributed under the new system. The attitude scales of this group of 619 students were tabulated. It was found that there were 141 students in the upper 25% of the group and 149 students in the lower 25% of the group. A mean score was then calculated for each group.

The Counseling Center furnishes the various departments on the campus with the ACE scores of students who have entered the college for the first time. The ACE scores for the upper 25% and lower 25% on the attitude scale were taken from this list.

Quantitative Factor

Students who have high scores in the quantitative area are considered to be more scientifically minded and have potentialities for the scientific and technical fields. The 25% of students who expressed the most favorable attitude towards Effective Living as measured by the attitude scale were compared with the 25% who expressed the least favorable attitude as to their quantitative abilities.

TABLE XXIV

STUDENT ATTITUDE TOWARDS EFFECTIVE LIVING COMPARED
WITH THEIR ACE QUANTITATIVE SCORES

Position on Attitude Scale	Number of Students	Quantitative Mean	S.D.
Upper 25%	141	5.295	1.74
Lower 25%	149	5.312	1.70
		Diff.	.017
F-test: 1.05 (not significant)			
t-test: .147 (not significant)			

The evidence presented in Table XXIV indicates that favorable and unfavorable students have similar quantitative abilities as measured by the ACE.

Linguistic Factor

Since students who rank high in the linguistic area have demonstrated some ability in the social science field, it might be assumed that these same students would be favorable towards a social science course.

The same students in the upper 25% and lower 25% on the attitude scale investigated in the preceding analysis in the quantitative area were used in the investigation of the linguistic area.

TABLE XXV

STUDENT ATTITUDE TOWARDS EFFECTIVE LIVING COMPARED
WITH THEIR ACE LINGUISTIC SCORES

Position on the Attitude Scale	Number of Students	Linguistic Mean	S.D.
Upper 25%	141	5.591	1.80
Lower 25%	149	5.000	1.47
		Diff.	.591

F-test: 1.50 (significant)

t-test: 3.046 (significant at the 5% level) (Cochran-Coxe formula)

The evidence found in Table XXV indicates that students who have expressed a favorable attitude towards the course have higher linguistic abilities as measured by their ACE scores than students who express an unfavorable attitude towards Effective Living.

Summary of Chapter IX

Academic achievement and ability factors which affected student attitude towards the Effective Living course were studied in this chapter. Part I of the chapter devoted itself to a comparison of student attitude toward the course and the students final term-end grades. Part II made comparisons between the student attitude toward Effective Living and the Students' ACE scores (quantitative and linguistic).

The large sample group was used in this study. Of the 850 students in the sample it was found that only 19 had taken the ACE just prior to entering the college this fall, 1951. This group of 19 was used in Part II.

A summary of Part I shows that the large sample group of 850 students was analyzed in terms of their final marks. Those students who had received A's and B's were put in the A-B group and those who had received D's and F's were put in the D-F group. It was found that there were 285 students in the A-B group and 181 students in the D-F group. A mean attitude score for the A-B group was computed and compared with the mean attitude score of the D-F group. The t-test revealed that the A-B group was more favorable towards the Effective Living course than was the D-F group.

Since the attitude scale was administered to the group before their final grades were distributed, it would appear that the attitude was established without the influence of the grade.

Part II in this chapter compared attitude toward Effective Living with ACE scores. The Counseling Center at Michigan State College administers the ACE to all entering students. The method of scoring the ACE was changed for the Fall term, 1951. In the large sample group of 850 students, it was found that 619 students had taken the ACE and had been scored under the new method. The 25% who expressed the most favorable attitude and the 25% who expressed the least favorable attitude towards Effective Living were drawn from this group, and an analysis was made of their ACE quantitative and linguistic scores.

An analysis of the data showed that there was no significant difference in the quantitative area of the ACE between the students who were favorable towards the course and those students who were unfavorable towards the course. Further analysis of the data revealed that students who were favorable towards the Effective Living course had significantly higher (5% level) linguistic scores than students who were unfavorable towards the course.

Chapter X, which follows, presents the summary, conclusions, and implications for further research.

Appendix X

CHAPTER X

SUMMARY, CONCLUSIONS AND IMPLICATIONS FOR FURTHER RESEARCH

The present chapter presents a summary of the investigations which were made, conclusions drawn, and some of the implications for further research.

The Problem

More students are extending their education beyond the twelfth grade than ever before. Educators have been concerned about the kind of educational experiences these students should have. Much has been done in the way of curriculum change to meet the needs of the students. Other research has been done along the lines of a better understanding of the student as a person.

There are many factors which motivate learning in a student. One of these factors is his attitude towards learning and his eagerness to gain knowledge. Quite frequently this eagerness is based upon his feeling of need.

The Effective Living course might be considered a course in human relations, and one of the problems confronting the department has been to instill into the students the feeling of need for such a course. Some students have appeared to be favorable toward the course and others rather unfavorable. This investigation deals with student attitude

toward the course in respect to those factors which seem to affect his attitude.

Fifteen factors which might affect student attitude toward Effective Living were analyzed: (1) the size of the student's home community; (2) the formal educational achievement of the student's father; (3) the student's father's occupation; (4) the administration of the attitude scale by student or teacher; (5) the signing or not signing of the attitude scale by the student; (6) the student's year in college; (7) the student's instructor in Effective Living; (8) the size of the student's class in Effective Living; (9) whether the student was male or female; (10, 11, 12) three comparisons on the student's college major; (13) the final term-end mark which the student received in the course; and (14, 15) the student's ACE quantitative and linguistic scores.

Methodology

With the cooperation of the Effective Living department and members of the Basic College staff, the Board of Examiners of Michigan State College constructed a 21-point Thurstone scale designed to measure student attitude toward a college course.

The first major problem was that of establishing the reliability and validity of the Board's attitude scale. The Q-value for each item on the scale had been computed by the Board of Examiners.

In testing for reliability a test-retest of the scale itself, was made. An item analysis of the statements on the scale was also made.

Two tests for validity were employed: (1) validation by the use of the interview technique; and (2) validation by comparison of known groups.

The second problem confronting the writer was that of selecting students for the study. The data were collected during the Fall term, 1951. There were students enrolled in all three terms of Effective Living, but the largest group was in Basic 151, the first term of the three quarter sequence. It was found that many of the second-term students and third-term students were either taking the course for the second time or were accelerating their program. It was decided that these two groups would not constitute a "typical" sample or group and therefore were not used in the investigation. The first-term group of 1,579 students was used and constituted the parent group.

In addition to the attitude scale two other instruments were used by the writer. The Teacher Evaluation Sheet, employed by the college for several years, was used to measure student attitude toward their instructors. The second instrument used by the writer was a census data sheet employed for the purpose of gathering personal data about the students.

A "large sample" group of 850 students filled out the census data sheet and checked the Teacher Evaluation Sheet along with the attitude scale. The rest of the students in the parent group filled out only the attitude scale.

Sixteen instructors teaching 47 sections of Basic 151 were also included in the study.

Each item on the scale had been given a weighted value by the Board of Examiners. The most "favorable statement" was given a value of 21

points and the "least favorable statement" was given a weighted value of one. All of the other statements were given weighted values in relation to their position on the attitude continuum. It was decided to total the items checked, by their weighted values, and compute the mean. This mean score was then said to represent the student's expressed attitude toward Effective Living. Since the mid-point on the scale was theoretically located at "11", a student whose mean score was found to be larger than "11" was said to be favorable toward the course and those students who had mean scores below "11" were said to express unfavorable attitudes towards Effective Living.

The Teacher Evaluation Sheet presented another problem. The sheet was designed to measure a student's attitude towards his instructor's ability as a teacher, but two of the statements on the scale were not used because they related to an evaluation of the course itself and not the instructor. The result was that the student was presented with a five-item scale for teacher evaluation. Each student was asked to circle the statements which he felt best represented his opinion of his instructor's ability as a teacher. Since each statement or question was followed by a five-point scale, ranging from "A" the most favorable to "E" the least favorable position on the continuum, it was necessary to give each of these five positions a weighted value. It was decided that for each "A" circled the instructor would receive five points; for each "B", four points; each "C", three points; each "D", two points; and for each "E", one point. The total number of points received by the instructor from each student was that student's attitude towards him. The mean score

of all the students was interpreted as the attitude which the students of a particular instructor held towards him.

The most points which an instructor could receive from any single student was twenty-five and the least number of points was five. A comparison was made between the attitude of the students towards their instructor and their attitude toward the course.

The Michigan State College Counseling Center furnishes the various departments in the college with the ACE scores of incoming students. This information was used when a comparison was made between the student's ACE quantitative and linguistic scores and his attitude toward the course, as measured by the attitude scale.

In determining whether one group of students was more favorable towards Effective Living than another group of students, the F-test was first employed to determine if the variances of the two groups being compared could be considered equal or unequal. If the variances were found to be equal and not significant, the t-test presented on page 44 was used. If, however, the variances were found to be unequal and significant at the 5% level, the t-test devised by Cochran and Cox was employed. If the t-tests showed a significant difference between the means at the 1% or 5% level, it was then said that one group was more favorable towards the course than another.

Findings

In order that the findings be more meaningful, the results of the various comparisons made by the investigator are submitted in the same

order in which they were reported in the body of the thesis.

1. The test-retest for reliability of the attitude scale revealed a product-moment correlation coefficient of .32. While not exceedingly high this coefficient would seem to indicate that the students responded in about the same manner when given the scale for the second time.

An item analysis of the statements in the attitude scale was made with the aid of the Flanagan "r" table.

2. Seven and five-tenths percent of the students checked the item which read: "If I were limited to taking only one course in college, I would select this course as the one."

3. Eleven percent of the students checked the item which read: "This course should be thrown out of the curriculum."

4. Students understood the statements in the scale and indicated by the interview technique that the items checked by them on the scale represented their attitude toward the course.

The instructors were asked to hand in to the writer the names of students who, by their behavior, had indicated a favorable or unfavorable attitude toward the course. A comparison of the mean scores of the two groups revealed a significant difference between the means of the two groups. The students who the instructors had indicated were favorable towards the course were found to be more favorable than those students who the instructors said were unfavorable. The results also indicated that the instructors were more accurate in picking the favorable students than they were in choosing the unfavorable students.

5. The size of the home communities of the students was compared in an effort to see if that factor would affect their attitude toward Effective Living. The results showed that there was no significant difference between the expressed attitude of the rural and rural non-farm students and that of the students who came from cities of 100,000 population or over.

6. Students whose fathers had dropped out of school by the time they reached the eleventh grade were compared with students whose fathers had attended at least two years of college. No significant difference was found between the mean scores of the expressed attitudes of the two groups.

7. Two groups of students were compared in relation to the occupations of their fathers. Group #1 was composed of those students whose fathers were engaged in professional, semi-professional, official and managerial occupations, and those who owned their own businesses other than agriculture. Group #2 was composed of students whose fathers earned their livings in the skilled, semi-skilled, and unskilled trades. It was found that the students represented in group #1 were more favorable towards the course than the students in group #2. The difference between the means was found to be significant at the 5% level.

8. In order to discover if attitudes expressed by students toward Effective Living could be affected by different administrative techniques, two methods of administering the scale were tested. In order that the instructor variant remain constant, students taught by one instructor were used in both experiments.

Students who had their attitude scale administered to them by their instructor and those who had the scale administered to them by a student from the class expressed similar attitudes towards the course.

Two groups of students were asked to sign their names to the attitude scale and two groups were asked not to sign their names to the scale. The results showed that those who signed their names to the scale expressed a more favorable attitude toward the course than those who did not sign their names.

9. A comparison was made between the expressed attitude toward Effective Living of freshmen students ($N=496$) and sophomores, juniors, and seniors ($N=374$). It was found that the freshmen were less favorable toward the course than were the students in the upper three classes.

10. One of the most significant findings in this investigation, in the opinion of the writer, was the relationship between the students' attitude towards the course and their ratings of their instructors. When comparing the 1,579 students' attitude toward the course with the same students' rating of their instructors, it was found that there was a rank correlation coefficient of .76.

It was found that the instructor, whose classes were most favorable towards Effective Living and who had ranked their instructor highest when compared with the other instructors, was a full-time, experienced teacher. It was further discovered that the classes who were least favorable toward the course and who ranked their instructor lowest, were taught by a part-time, inexperienced teacher.

11. The attitude of two small classes of thirty-two students taught by one instructor were compared with two large classes of over one hundred students taught by another instructor. The results showed that the students in the two small classes expressed a more favorable attitude toward the course than did the students in the two large classes.

12. A comparison of male students' attitudes with female students' attitudes toward the course showed that there was no significant difference between the two.

13. An investigation was made in an effort to determine if the student's college major affected his attitude towards Effective Living. (a) It was found that social science majors were more favorable toward the course than were natural science majors. (b) A comparison between the natural science majors and non-preference students revealed no significant difference in attitude towards the course. (c) It was found that social science majors were more favorable toward the course than were non-preference students. (d) There was found to be no significant difference between the attitudes of the preference and non-preference students.

14. The attitude scales of all the students receiving "A" and "B" for their term-end marks were compared with the attitude scales of all the "D" and "F" students. The results showed that the A-B group were more favorable toward Effective Living than were the D-F students.

15. The quantitative and linguistic scores from the students' ACE were compared with their attitude toward the course. The upper 25% (N=141) on the attitude scale were compared with the lower 25% (N=149).

There was no significant difference found between the mean scores of the two groups in the quantitative area on the ACE. The upper 25% were found to have demonstrated a greater linguistic ability as measured by the ACE than the lower 25%.

Conclusions and Implications for Further Research

On the basis of the findings certain conclusions may be drawn and implications for further research indicated.

1. It should be remembered that this investigation was not conducted in order to determine the "popularity" of the Effective Living course at Michigan State College, but rather to analyze some of the factors which seem to affect student attitude towards a college course. It is also pointed out that the results obtained in this investigation might not necessarily be the same as would result from the study of some other college course. Student reactions may vary with course content and objectives. Other studies of student attitudes towards other Basic College courses might be conducted and the results compared with the findings of this investigation.

2. The attitude scale constructed by the Board of Examiners at Michigan State College is easy to administer and score and is available for use to other college courses. By using this instrument for measuring attitude toward college courses, other departments might gain a greater insight into the attitude of their students and thus make such changes as might seem advisable in course content and methodology.

3. The size of the home community did not appear to affect the students' attitude towards the course. Some students coming to Michigan

State College from the Detroit area have attended small private and parochial schools, while some of the students coming from rural areas have attended large consolidated or community schools. The affect of the size of the high school on the student's attitude towards the course might be the subject of further investigation.

4. After analyzing the influences of the fathers' educational achievements and occupations, it was felt, especially in the educational factor, that perhaps the education of the mother might be a more determining factor than the education of the father. Further investigation, here, seems to be indicated. It was found that the students whose fathers were in the professions, and related areas were more favorable toward the course than were the students whose fathers were engaged in skilled, semi-skilled and unskilled occupations. It was suspected that the drive for social and economic equality might have been a factor. In one case, the students have social and economic status and exert an effort to "maintain" it, while the other group is trying to "attain" this status. A course dealing with human relations appears to affect the two groups in two different ways. The "maintaining" group seems to be more favorable towards the course than does the "attaining" group. Further investigation is indicated to determine whether this difference exists.

5. It was suspected by the writer that there might be a difference in expressed attitudes toward the course if the scale were administered in different ways. There was no significant difference found when the instructor or when the student administered the attitude scale, but there was a marked difference in expressed attitudes when the students'

identities were and were not revealed. If an investigation were to be made which was intended to measure the attitude of students toward a course, it is recommended that the students' identity remain anonymous in an effort to encourage free response.

6. Since the freshmen students expressed attitudes less favorable to the course than did the sophomores, juniors, and seniors, perhaps the course should be offered in the upper three years. Former students of the writer have indicated to him that they wished that they could have taken the course during their senior year, that it would have meant more to them. The Basic College has made some recent changes in which they have designated two courses for the freshmen year and two courses for the sophomore year. Further investigation, however, seems to be indicated.

7. Many studies have been made on class size. This investigation found that small, intimate, discussion groups produce a more favorable attitude toward the course. This may be due, again, to the nature of the course. Other subject matter may be taught as well in large, lecture sections. There is room for more careful research in this area; particularly, since college enrollments will be increasing in the next few years and most universities will be confronted with a shrinking budget.

8. Since Effective Living is a social science, it might have been anticipated that social science majors would be more favorable towards the course than were the natural science and non-preference students. The big problem for the social science teacher is to interest the science

majors as well as the social science majors in human relations problems. It has been observed by the writer, from his previous experiences in business and industry, that many of our trained technicians are capable of doing their "job" but have difficulty getting along with other people, particularly those people with whom they come in daily contact. One of the reasons for the establishment of the Effective Living course was an effort on the part of the educators to answer the criticism frequently put to them by employers in business and industry; "you seem to be able to train our people well in the skills of their trade, but you don't seem to be giving them training in how to 'live!'"

A follow-up investigation of Effective Living students might be conducted in an effort to ascertain the effect of the course on their personal living. Further research might also be made to determine whether they get along with their fellow workers better than those students who did not take the course.

9. Since the A-B students appeared to be more favorable toward the course than the D-F students, it appears that there may exist some correlation between grades and attitudes toward the course. Since the attitude scale was given before the grades were announced, it might be suspected that the students' attitudes were not affected by their grades, but rather, the grades were affected by the students' attitudes. Further studies might be made in measuring attitude change; before and after an important examination, at the beginning and at the end of a course, and measuring attitude change from the freshmen year, when the student takes the course, and during the senior year after he has been out of the course for three years.

As the research project developed, many new investigations suggested themselves to the writer. The following were not a part of this investigation and are presented here as recommendations for further research.

1. The findings in this investigation showed that the students who received A's and B's as final term-end grades were more favorable towards the course than the students who received D's and F's. Also, the sophomores, juniors, and seniors were found to be more favorable towards Effective Living than were the freshmen. Further investigation should be made in an effort to determine if the A and B students were primarily sophomores, juniors, and seniors; and whether the class-in-college factor was more discriminating than the grade factor.

2. This investigation compared the attitudes of only the A-B students with the D-F students. Further research is suggested, including a comparison of the "average" student with these two groups.

3. The Effective Living department has permitted students to pre-register at the end of each term for classes conducted by their last instructor. Thus, some students have been able to continue throughout the three terms of the course with the same instructor. A comparison might be made between the attitudes toward the course of these students with the attitudes of students who have had a different instructor for each term.

4. Some Basic College instructors are primarily interested in research. An investigation might be made of the attitudes toward the course of students in these classes compared with the attitudes of students whose instructors are primarily interested in teaching.

5. There appears to be some divergence of opinion among the members of the Basic College staff as to the value of general education. An investigation might be made by comparing the attitudes of students whose instructor demonstrates an understanding of general education with the attitudes of students whose instructor is openly opposed to general education. The success of such an inquiry would depend on the ability of the investigator to ascertain accurately the attitudes towards general education held by Basic College instructors.

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APPENDIX A

A SCALE TO MEASURE ATTITUDES
toward
ANY COLLEGE COURSE

Copyright, 1951
Board of Examiners
Michigan State College

On the reverse side of this sheet are statements about college courses. You are asked to consider these statements with reference to a particular course. Read all the statements and check (✓) those that express your feeling about this course.

This scale is designed to measure attitudes and it is not used for any grading purposes. The answers which you give will be regarded as confidential. You are urged to judge each statement according to your own personal feelings about it.

Before beginning work, please record the information requested below:

Name _____ Date _____

Age _____ Sex _____ Class (Fr, Soph, etc.) _____

Major field of academic interest _____

Name of course about which
I am expressing an opinion _____

I have finished this course....._____

I am now taking the _____ term of this course....._____

I have never taken this course....._____

Name of course _____

Check (✓) every statement below that expresses your feeling about this course.

- () 1. This course is very beneficial to the majority of students who take it.
- () 2. I am very enthusiastic about this course.
- () 3. The benefits to be gained from this course hardly justify its existence.
- () 4. This course does not help students much.
- () 5. Not enough time is spent on each topic to get the full value of it.
- () 6. Some parts of this course are very worthwhile.
- () 7. This course does a good job in covering so much material so clearly.
- () 8. This course could be helpful if it were better organized.
- () 9. There are better courses than this and there are worse courses.
- () 10. This is a good course for college students to take.
- () 11. This course does a fair job.
- () 12. Students learn very little in this course.
- () 13. This course, no doubt, has some value for some people.
- () 14. If I were limited to taking only one course in college, I would select this course as that one.
- () 15. I don't see how anyone could ever like this course.
- () 16. This course is too vague.
- () 17. This course should be thrown out of the curriculum.
- () 18. The material taught in this course is not detailed enough.
- () 19. One should have no difficulty devoting attention to the class work in this course.
- () 20. It would be hard for anyone to devise a better course than this one.
- () 21. This course makes a valuable contribution to a college education.

TEACHER EVALUATION SHEET

MICHIGAN STATE COLLEGE

_____, Sex _____, Class _____, Grade point average _____

INSTRUCTIONS: It is the desire of your instructor to achieve the best possible instruction in this course. To help accomplish the purpose, this evaluation sheet was devised to obtain a systematic poll of student opinion. Carefully consider each question, then record your judgment by circling one of the letters A, B, C, D, E, for each item. A blank space has been provided at the end for adding comments you may wish to make.

ARE THE MOST IMPORTANT OBJECTIVES MET?	A The course is an important contribution to my college education	B	C Contributes about as much as the average college course	D	E This course doesn't seem worthwhile to me
IS THE INSTRUCTOR'S PRESENTATION OF SUBJECT MATTER CLARITY AND FACILITATE LEARNING?	A Presentation very meaningful and facilitates learning	B	C Presentation not unusually good or bad, about average	D	E Presentation often confusing and seldom helpful
IS THE INSTRUCTOR'S SPEECH EFFECTIVE?	A Instructor's speaking skill concentrates my attention on subject	B	C Speech sometimes invites attention on speaker rather than subject	D	E Speech usually distracting and concentration very difficult
HOW WELL DOES THE INSTRUCTOR WORK WITH STUDENTS?	A I feel welcome to seek extra help as often as needed	B	C I feel hesitant to ask for extra help	D	E I would avoid asking the instructor for extra help unless absolutely necessary
DOES THE INSTRUCTOR ENCOURAGE ME TO INITIATE INDEPENDENT THINKING?	A Instructor continually inspires me to extra effort and thought beyond course requirements	B	C In general, I do only the usual thinking involved in the assignments	D	E I seldom do more than rote memory work and cramming
DO THE GRADING PROCEDURES GIVE ME A FAIR EVALUATION OF MY RESULTS?	A Instructor's estimate of my overall accomplishment has been quite accurate to date	B	C Instructor's estimate of my accomplishment is of average accuracy	D	E I feel that the instructor's estimate is quite inaccurate
HOW DOES THIS INSTRUCTOR RANK COMPARED WITH OTHERS YOU HAVE HAD?	A One of the best instructors I have ever had	B	C Satisfactory or about average	D	E One of the poorest instructors I have ever had

COMMENTS:

(If space is needed, please use the back of the sheet if necessary.)

(If space is needed, please use the back of the sheet if necessary.)