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AN EXPERIMENTAL STUDY OF THE MODIFICATION
OF ATTITUDES TOWARD THE MENTALLY RETARDED

by

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A DISSERTATION

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Chapter I

INTRODUCTION

The scientific and technological advances that have occurred in the 20th century have had a great impact on the fields of education and communication. There is dependency on effective communication techniques within the field of American education. Despite the successful utilization of many improved techniques of communication, education has not yet been able to provide sufficient information to students on some topics of great concern to the welfare of many people. One segment of the population which recently has been brought to the attention of the nation is that group of individuals who are mentally retarded.

In the United States there are over 5 million persons classified as being mentally retarded. This figure refers to those persons who are sub-normal in their intellectual functioning as a result of some incurable environmental or organic condition. In the past these persons have been secluded from the mainstream of American life by confinement in an institution or at home and viewed by family and friends as objects of shame and embarrassment.

As a result of the personal involvement of prominent political figures, such as the Kennedys and Humphreys,

in the last decade there has been an increased public awareness of that segment of the population that is mentally retarded. In some instances this new exposure has produced some worthwhile results. One example of this is the federal funds that have been made available to universities and colleges for training professionals to work with the retarded.

Accompanying the increased awareness on the part of the general public of the problems associated with mental retardation came a more accepting attitude. This is evidenced by the continued and expanded programs for the retarded at both the local and national level that have followed the initial federal programs. The visibility that the mentally retarded have achieved in the past few years has served to lend a certain air of respectability to the entire area of mental retardation.

This change in perspective in the United States was a reaction to the type of exposure that the field has received. The changes that resulted from this new awareness served to provide the groundwork for the implementation of constructive and more enlightened programs to be proposed and established.

Increased financial support from various organizations and groups has been indicative of the positive results generated by a growing social awareness on the part of the general public toward the mentally retarded. This support points out areas of potential social concern. There exists a sequence of events that serve to give credence to the

necessity of informing the public on matters of common interest. This has been demonstrated by the financial support given to programs for the retarded as a result of the efforts by some members of congress. For attitudes toward a particular class of individuals to be modified positively it is desirable to furnish persons with information presented in a logical and appealing manner. The success of this can be documented to a certain extent by the involvement of the federal government in a variety of program areas in the field of mental retardation. These programs came about as a result of the sincere and dedicated efforts of some law makers who were personally involved in an attempt to bring the truth about mental retardation to the American people.

There has been insufficient research investigation in the area of attitudes toward the mentally retarded to provide professional workers with adequate evidence concerning the most effective utilization of the latest communication media in teacher training programs as an aid in attitude modification. This fact is apparent when one considers the lack of understanding that is exhibited by many educated persons about the mentally retarded.

Need for the Study

The necessity of presenting material not only in an intellectually meaningful way but also in a manner designed to foster the formation or modification of attitudes

consistent with the aims or goals of the institution and the culture is a major concern of American education. To accomplish this end effectively, it is necessary to investigate the ways in which attitudes are established and maintained. The fact that an individual reacts toward activities, social groups, social institutions, and other aspects of his world in a positive or negative manner is indicative of the individual's constellation of attitudes (Thorndike and Hagen, 1961). Without a knowledge of the processes that are involved in the formation of attitudes it is unrealistic to assume that the mere presentation of material will automatically produce the desired attitudinal change. The foregoing statement points out the need for systematic evaluation and comparison of the various methods that may be used in an attempt to modify attitudes, specifically in the area of the mentally retarded.

The attitudes that an individual has are the result of his experiences and learning. Osgood, Suci, and Tannenbaum (1957) pointed out that most authorities are in agreement that attitudes are both learned and implicit. They go on to say that attitudes presumably are acquired in a manner similar to other such internal learned activity. In order for attitudes to be modified it is necessary for the individual to be provided with an academic or experiential situation in which the cues that are present will be meaningful to the person. Greene (1952) indicated that research in the area of attitudes is considerably behind the

work done in the field on interest and there is a need to conduct investigations in situations outside the classroom. Despite the fact that there has been a growing interest in the mentally retarded in recent years there has not been sufficient investigation done to provide answers to many research problems.

If attitudes about the mentally retarded are to be modified it is necessary to provide information and experience in such a way as to shift positively the locus of feeling within the individual. The resultant change in attitude produced by a positive shift in feeling can be used as an effective means of bringing much needed public involvement to the area of mental retardation. Improved understanding and subsequent involvement is a function of the ways in which the individual has come to be aware of the mentally retarded. In order to discover the most effective methods of developing a positive awareness it is vital that the effectiveness of currently available methods such as lectures, work experiences, and tours be investigated. In addition to the need of involving the general public in the problem of mental retardation, there is a necessity for improving the teacher training programs for those persons preparing for professional careers in the field. This study was designed to provide information regarding the relative efficacy of currently used methods in teacher education programs to modify attitudes of students enrolled in teacher training programs toward the mentally retarded.

Purpose

The determination of the processes by which an individual's attitudes are modified is viewed as being a valuable aid in the planning of effective educational experiences. Therefore, the basic purpose of this research was to study selected currently practiced methods of teaching about the retarded with the goal of discovering which of those methods resulted in the greatest change of attitude. It also was anticipated that the study would provide information regarding the function and stability of attitudes. By investigating some of the ways in which attitude modification occurs, it was anticipated that this would provide direction as to how this process could be more effectively utilized within teacher education and training programs.

Problem

The study was designed to investigate selected processes involved in the modification of attitudes toward institutionalized mentally retarded individuals by university students as a result of academic experience, observation, and personal interaction. The study also was designed to furnish information regarding the temporal relationship between a stimulus situation and the resultant attitude change.

The experimental population was composed of randomly selected undergraduate students at the University of

Alabama. The subjects were enrolled in courses within the departments of Educational Psychology, Special Education, and Health, Physical Education, and Recreation in the College of Education. The experimental location of the study was Partlow State School and Hospital in Tuscaloosa, Alabama. The subjects were assigned to either a control group or one of four experimental groups.

Group I: subjects were not subjected to any experimental treatment other than being tested at the beginning and end of the semester. This group was designated as the control group.

Group II: subjects were tested at the beginning of the semester, provided a lecture tour of the institution, and posttested at the end of the semester.

Group III: subjects were pretested at the beginning of the semester, provided an orientation to the institution and individual work experiences with the residents of Partlow State School and Hospital and posttested at the end of the semester.

Group IV: subjects were pretested immediately before a lecture tour of the institution and posttested immediately following the conclusion of the tour.

Group V: subjects were pretested at the beginning of the semester, at the conclusion of a lecture tour of the institution, and again at the conclusion of the semester.

The instrument utilized in this study for the assessment of attitudes was a form of the semantic differential

developed by Osgood (1957) and his associates. The semantic differential was composed of nine seven-point bipolar scales. The following were the adjective pairs chosen for the study: good-bad, valuable-worthless, clean-dirty, strong-weak, large-small, heavy-light, active-passive, fast-slow, and sharp-dull. Eleven stimulus words were rated on each of the nine scales by the subjects. The stimulus words were: institution, retardation, birth, children, custodial, trainable, educable, parent, low grade, cottage, and Partlow.

Using a factor-analytic procedure, Osgood and Suci (1955) found that three general factors were involved in the semantic differential. Of the three factors, evaluative, potency, and activity, they felt that the evaluative factor was the most significant measure of attitude.

Hypotheses

The following hypotheses stated in the null form were tested to determine statistical significance at the .05 confidence interval:

Hypothesis I. There is no statistically significant difference between the means in pre- and post-measures of attitudes in Groups I, II, III, IV, and V.

Hypothesis II. There are no statistically significant differences among the pre- to posttest changes in means of attitudes among the four major treatment groups.

For utilization of a Lindquist Type I analysis, Group V was excluded from the sample since, in fact, it was a combination of the treatments for Groups II and V. The analysis of the data for Group V was made in the testing of Hypothesis I.

Statistical Analysis of the Data

The research design for this study followed the pattern of a Lindquist Type I. The analysis of the data were accomplished by the use of computer programs developed by the author for mean compilation and analysis of variance. An IBM Mod 50 computer was utilized for the processing of the data.

Definition of Terms

Significant terms used in the study are defined as follows:

Attitude--"... a relatively enduring system of affective, evaluative reactions based upon and reflecting the evaluative concepts or beliefs which have been learned about the characteristics of a social object or class of social objects (Shaw and Wright, 1967, p. 10)."

Mental retardation is a condition of subnormal intellectual capacity and functioning produced by known or unknown causes that are irreversible.

Institutionalized - those individuals who by court order are made wards of the state and committed to Partlow State School and Hospital as a result of the effects of mental retardation.

Modification of attitude is a condition assumed to have occurred as a result of significant changes in scores on the semantic differential.

Academic experience is the presentation of information in a manner designed to emphasize material directly related to the cognitive domain and minimize material related to the affective or psychomotor domains. In the context of this study this was done by the presentation of information in the lecture tour and general orientation by staff members of Partlow State School.

Observation is the presentation of stimuli in a situation that limits involvement to the extent that the individual is able to view only the situation and not interact within it. In this study the tour of the institution provided such an experience.

Personal interaction is a situation in which an individual is able, to a degree, to experience through effective communication the life space of another person. This type of experience was provided in the study by the assignment of subjects to individual educational and work experiences with a resident of the institution.

Organization of the Study

This study utilized students in the College of Education at the University of Alabama enrolled in the departments of Educational Psychology, Special Education, and Health, Physical Education, and Recreation. They were assigned to four experimental groups in a random fashion. The attitudinal cluster that this study investigated had as its focus the institutionalized mentally retarded individual. The instrument that was used to measure attitude was a form of the semantic differential developed by Osgood and his associates. The subjects initially were screened to provide a population that was determined to be relatively uncontaminated by prior experience with the mentally retarded. From that population pool subjects then were randomly assigned to experimental groups. The actual field work portion of the research was carried out at Partlow State School and Hospital in Tuscaloosa, Alabama.

CHAPTER II

SELECTED REVIEW OF THE LITERATURE

The literature reviewed for this study was concerned with three areas of research: (a) attitude modification; (b) the semantic differential; and (c) attitudes toward the mentally retarded. These three areas form the research foundation for this investigation.

Attitude Modification

Attitude modification is a process that brings about changes in the way a person perceives an object or class of objects. The nature of attitudes and the processes by which they are modified have been the subjects of investigation for many years.

Some of the traditionally held concepts about attitudes are that they are learned, relatively stable, have a specific referent (or class thereof), vary in direction and scope (Shaw and Wright, 1967). Attitudes may be further differentiated in terms of a frame of reference. Mursell (1949) distinguishes two different connotations of the term attitude. In one case an attitude may be regarded as a tendency to feel

and react in a particular fashion toward some specific issue or problem. From a second point of view attitude may be representative of a generalized tendency to approach life in a characteristic pattern. In some instances these patterns may be intellectual, aesthetic, or religious. From this point of view attitudes may then be equivalent to values.

Investigation of attitudes within certain prescribed limits points up the necessity of looking carefully at the conditions necessary for attitude modification to occur.

Since one may possess an attitude only when the referent object or event is of a social nature, the referent object or event must be perceived by the possessor as having purpose or being the result of purposive behavior of some persons (Shaw and Wright, 1967, p. 2).

Many methods have been employed by researchers to investigate the process of attitude modification. In an early article, Herrington and Miller (1933) indicated that statistically significant differences in measured attitudes were found as a result of hearing a lecture and reading a persuasive communication. They found also that these differences persisted at a significant level for a period of six months.

Weksel and Hennes (1965) suggested that the semantic differential can be used effectively as an attitude measure when stability over a long period of time is not a criterion. They indicated a need for additional evaluation instruments if the researcher is concerned with intensity of response rather than direction.

The use of university students as subjects for attitude research has had a long history. Attitude assessment of undergraduate students on social issues was done by Carlson (1934) at the University of Chicago. Carlson was concerned with topics of social concern such as prohibition, birth control, God, pacifism, and communism. Expanding on this area of research, Sarnoff and Katz (1954) postulated that social attitudes are a function of different motivational patterns. As a consequence the modification of attitudes is dependent on procedures that are related directly to changing the motivational level of the individual. Modification thus must be directly concerned with such variables as ego defenses and reality testing. The application of these postulates is found in some of the research done on social groups.

Smith (1969) found that the modification of attitudes resulted not wholly from the information furnished to an individual but by the way in which the information was perceived by the individual. The reference group of the individual seemed to have a definite influence on the effectiveness of modification procedures. The effect of a reference group on the modification of behavior has been substantiated in the literature. Sherif and Cantril (1945) said that the identification of an individual with a group is accomplished by a socialization process. This process results from the achievement of conformity as a result of common experience and the acceptance of standards and norms previously established.

This research points out the importance of meaningful experience with a reference group if positive attitudes are to be fostered. The application of this process to teacher training programs should not go unnoticed. The continued improvement of teacher training programs is dependent on the effective utilization of research evidence. Shaw and Wright (1967) stated that:

If the attitude of a person toward a given object, or class of objects, is known, it can be used in conjunction with situational and other dispositional variables to predict and explain reactions of the person to that class of objects. To the extent that principles governing the change of attitudes are known, they may be used to manipulate the individuals reactions to relevant objects (as is exemplified in psychotherapy, education, and propaganda) (p. 1).

Since it is impossible to have an effective educational situation without manipulating individuals' reactions to classes of objects, it is necessary to view carefully the operations that accompany this process.

Reviewing specific research that has been done in the area of group membership as a function of attitude, Rath and Misra (1963) found that the attitudes of group members changed to become more consistent with the norms of the group. The group situation provided an opportunity for an interchange of ideas which served to provide a forum for heterogeneous opinions to be expressed. In another study, Siegel and Siegel (1957) concluded that attitude change did result from the effect of imposed group involvement despite the fact that the individual did not accept the group as his reference

group. In cases where the individual did accept the imposed group as a reference group, the change was greater. The change in attitude in either case was increased conformity to the norms of the group.

The following studies narrow the general frame of reference of group membership to the area of attitude modification toward mental illness. Smith (1969) administered pre- and posttests to patients, student nurses, and psychiatric hospital employees on their attitude toward mental illness. The findings of this study indicate that measured attitudes moved in a positive direction consistent with the attitudes of the professional treatment staff. There appeared to be no relationship between attitude change and indoctrination or time spent in the hospital.

In another study using students as subjects, the results showed that attitudes toward the mentally ill were changed in a desirable direction as a result of the effects of a class in abnormal psychology. Costin and Kerr (1962) suggest need for further research on the relation of course to attitude.

In order to learn more about the actual processes involved in attitude modification in a learning situation, Altrocchi and Eisdorfer (1961) devised an experiment in which they investigated the effects of increased information about mental illness and psychotherapeutic training on the attitudes of students as measured by a semantic differential scale. The authors postulated, on the basis of their findings, that students who are relatively well-informed about mental illness

are likely to change their attitudes very little as a result of information alone. The data indicated that the most favorable change resulted when both information and individual contact were supplied. The personal involvement appeared to be a causative factor in attitude change.

In a general situation, Klopfer, Wylie, and Hillson (1956) conducted a study of attitudes about mental hospitals. The authors found that differences were present as a function of the closeness of the contact with the institution. The results indicated that there seems to be a generalized attitude on the part of the public toward mental hospitals.

Still another group of persons was investigated to determine their attitude toward the mentally ill (Pratt, Giannitrapani and Khann, 1960). This investigation found that occupational groups differed in their attitudes toward the institutionalized mentally ill. Professional people and students held more positive attitudes than did members of other groups. The results of this study may be interpreted as an indication that better informed individuals are more likely to express a positive attitude than persons who have had less personal and academic exposure to the mentally ill.

The Semantic Differential

The development of attitude questionnaires has been a useful tool in the assessment of favorable or unfavorable

reaction to some group, institution, or issue (Thorndike and Hagen 1961). Quite a different approach is the semantic differential scale. This is an instrument that has had widespread use by researchers of attitudes. Osgood, Suci, and Tannenbaum (1957) pointed out that although the semantic differential is often referred to as a kind of test, it may be used as a general method of getting at certain types of information in a variety of research situations.

Specifically, the semantic differential is an instrument containing a number of bipolar and adjective pairs. The adjective pairs are placed on a seven point continuum and the respondent is asked to mark the position on the scale that best represents his attitude toward a stimulus word.

In addition to its function as a static measure of attitude, some authors have found additional applications. One of the conclusions of Stricker (1963) was that the semantic differential could be used to make predictions of subsequent behavior. Since the prediction of the behavior of an individual at some point in the future is of great importance to researchers, this use of the semantic differential is indicative of its worth as a research tool.

The research problems which the semantic differential have been applied to cover a wide range of interests. Hoar and Meek (1965) used the semantic differential to measure attitude change as a result of subliminal effects. The data

indicated that no statistically significant shifts in attitude could be demonstrated on pre- and post-measures as a result of the presentation of subliminal messages to an experimental group.

Nichols and Shaw (1964) utilized the semantic differential in an investigation of saliency as a factor involved in the expression of attitudes consistent with a membership group. They concluded that a measure of high saliency increases the likelihood of responses similar to the attitudes of the membership group.

The semantic differential has also been used to measure attitudes toward various persons and classes of persons. Osgood et al. (1957) measured public attitudes toward labor leaders and Senator Robert Taft. Asher and Evans (1959) assessed the attitudes of university students to Negro professors and intelligent Negroes. Altrocchi and Eisdorfer (1961) investigated the attitudes of undergraduate students attending Duke University toward a number of concepts, persons, and groups of persons, including the self, ideal-self, mother, father, average man, average woman, insane woman, old man, old woman, psychiatrist, and psychologist. Kogan and Wallach (1961) were concerned with attitudes toward family life, baby, older people, foreigner, my mother, my father, myself, and the ideal person. Nunnally (1961) measured attitudes of psychologists and psychiatrists toward mental health problems. Nichols and Shaw (1964) assessed the attitudes of college students to their professors.

As has been evidenced by the above studies the semantic differential has been used in a wide variety of research situations to measure attitudes toward a wide range of persons, classes of persons, and concepts.

Although the semantic differential has had widespread use in the assessment of attitudes few studies have utilized it as a measure of attitude toward a mentally retarded population. However, in a study to investigate the effect on attitude of previous contact with the mentally retarded, Jaffe (1967) found that attitudes appeared to have been influenced on a cognitive dimension but not on an affective dimension, as measured by the evaluative factor of the semantic differential. In reporting this study, Jaffe points out that research done by Deutsch and Collins (1951) and Bettelheim and Janowitz (1964) support this finding. He concludes that equivocal findings with regard to the effect of personal contact may be due to the particular nature of the involvement. Such factors as the subjects, location, and the specific cues present during the contact have been found to influence subsequent attitudes and involvement. Jaffe suggests a need for research to investigate the effect on attitudes of different types of contact with the mentally retarded.

Attitudes Toward the Mentally Retarded

In the past decade references to the mentally retarded have been found in increasing numbers both in the popular

press and scientific journals. These articles have dealt with various aspects of mental retardation and some have concerned themselves with the attitudes of various groups of people toward the retarded. Evidence of this increased concern on the part of some political figures is noted in an article which appeared in Science (1961).

Former President Kennedy's sister, Rosemary, has long been institutionalized as a result of mental retardation. President Kennedy stated that the subject of mental retardation "is a matter of the greatest possible interest to me." It was pointed out that mental retardation affects 10 times as many persons as diabetes, 20 times as many as tuberculosis, 25 times as many as muscular dystrophy, and 600 times as many as infantile paralysis. The article went on to say that state institutions average 367 patients over their rated capacity and there is also a severe shortage of staff personnel. Former President Kennedy established a 24 man panel to seek recommendations and requested a budget increase for the National Institute of Health to be spent in this area.

Science News Letter (1963) published an article indicating an example of the financial support being supplied to the field on mental retardation. The article stated that President Kennedy had presented an award of merit to Dr. R. L. Masland, director of the National Institute of Neurological Diseases and Blindness for the National Association for Retarded Children. Also a sustaining grant of \$25,000 was

provided by the National Association for Retarded Children for Dr. H.H. Gordon of the Albert Einstein College of Medicine, New York, for continued research into the causes of mental retardation. This growing concern on the part of different professional and private groups has had a great influence on the attitude of the general public on the subject of mental retardation.

The increased concern on the part of church groups is indicated by McNospy (1965). He indicated the need for wider acceptance of the reality of mental retardation on the part of the general public. McNospy pointed out the unashamed efforts on a national scale by President Kennedy and Vice President Humphrey to bring to the attention of the public the problem of mental retardation. It also was pointed out that of those individuals that are mentally retarded, 96% must live in the community and 75% have no opportunity for special schooling. He stressed the need for the church to involve itself in this area that affects so many people in all countries.

The fact that the public is still relatively uninformed is documented by research. Despite differences within class groups, Meyers, Sitkel, and Watts (1966) found that there was a general lack of understanding as to the prognosis for the mentally retarded with regard to occupational and life adjustment. They found this situation to exist not only in the general public, but also, within families containing a

mentally retarded individual. This lack of understanding even within families containing a retarded individual points up the need for finding effective methods of making information about the mentally retarded more readily available.

The attitudes of parents toward the mentally retarded child are not consistent according to a study done by Condell (1966) with rural families. Condell concludes that effective counseling with the families of the retarded is very much in need. In another study, a rating technique was used by Jaffe (1966) to compare the expression of attitudes toward the mentally retarded as contrasted with normals. As one might suspect, fewer positive statements were made about the mentally retarded individual than about the normal individual. These studies have indicated the need for making information available so that conflicting attitudes about the mentally retarded can be resolved. The research findings pointed out that even in educated and personally involved situation, misunderstandings can exist.

Data from some studies have indicated that different attitudes toward the mentally retarded have produced different types of behavior. It was found by Butterfield, Barnett, and Bensberg (1969) that different behavioral approaches to the care of the institutionalized mentally retarded parallel differences in measured attitudes toward the resident populations in the institutions investigated.

Within the field of education, research has been carried out to determine the attitudes of students toward the

mentally retarded. A study by Efron and Efron (1967) indicated that differences in attitudes about the mentally retarded do exist in the responses of students of education. Although the results demonstrated attitudinal differences in the various groups, only the teachers of the retarded responded in a positive manner with regard to intimate contact with the mentally retarded. The authors concluded from this that personal contact is necessary to change anything other than an intellectual facet of an individual's attitude.

Blessing (1958) found that expressed attitudes by public school administrators toward services for the trainable mentally retarded child have moved in a positive direction in recent years. This fact may be attributed to the growing involvement on the part of public education with all children regardless of their individual capabilities. This is evidenced by greater numbers of special classes and increased financial support of programs for the handicapped.

There have been some studies reported in the literature that attempted to make evaluations of various techniques utilized for attitude modification. This type of research has been done with different subject groups. Quay, Bartlett, and Wrightsman (1961) investigated attitudinal change in attendants at an institution for the mentally retarded. The procedure involved ascertaining the relative effectiveness of three treatments (lecture, discussion, and booklet). It was found that there was no significant change in

attitude of the discussion or booklet treatment groups or the control group. They did find that attitudes were changed significantly in the positive direction within the lecture treatment group. The authors stated that this fact is indicative of the greater effectiveness of authoritative methods of modifying attitudes in attendants at an institution for the mentally retarded.

Some specific methods of attitude modification have been utilized with students to determine comparisons of effectiveness. The following studies, utilizing pre- and posttest measures of expressed attitudes, report on some of the methods that have been investigated. Mahoney and Pangrac (1959) report that although there is a change in attitude about the mentally retarded as a result of a college course, the change is not as great as many educators would like to believe. They pointed out that variables such as quality of instruction and motivational level of the student contributed to a final attitude measure. They conclude, however, that there is a great need for research on other factors influencing attitude in order to devise training programs more effectively.

Cleland and Chambers (1959) investigated the effectiveness of the "guided tour" as a means of modifying the attitudes of high school and college students toward the mentally retarded. They found the "guided tour" was an effective technique but the resultant change in attitude was not always of a positive nature. A sentence completion instrument was used to assess attitudes.

Sartin (1964) conducted an experiment to determine the cumulative effect of lecture, field trip, and limited personal contact of college students with mentally retarded children. The results indicated that attitudes were modified but not necessarily in direct relation to the experience.

The preceding studies are examples of techniques utilized in the investigation of methods concerned with the modification of attitudes toward the mentally retarded. They have been primarily concerned with the attitudes of students since it is from this group of individuals that professional workers will come.

CHAPTER III

PROCEDURE AND METHODOLOGY

General Procedure

The methodology and procedure employed in this study involved:

1. planning four different experimental treatment groups which conceivably might demonstrate a change of attitudes of college students toward the mentally retarded;
2. selecting subjects for each treatment;
3. developing a measure of attitudes toward the mentally retarded;
4. implementing treatment plans to the subjects in each of the five groups;
5. administering pre- and post-treatment measures to the subjects in each of the five groups;
6. the statistical analysis of the test results to test the hypotheses generated for the study.

The population for this study was drawn from a pool consisting of undergraduate students enrolled in the College of Education at the University of Alabama.

The data were analyzed to determine the expression of statistically significant differences toward mentally retarded individuals. This was done by utilizing a Lindquist Type I research design and the application of statistical computer assisted programs for mean compilation and analysis of variance.

Selection and Description of the Site for the Field Experiences

The nature of Partlow State School and Hospital and its proximity to the University of Alabama were the prime considerations for its choice as a field location. The institution was able to provide all the experiences that were needed to carry out the research design. This facility is a resident institution for the mentally retarded in Tuscaloosa, Alabama, and is under the jurisdiction of the State of Alabama Department of Mental Health, Division of Mental Retardation. The population of the institution is in excess of two thousand residents between the chronological ages of five and eighty-five. The residents are afforded educational and training opportunities and a wide range of services designed to provide rehabilitation or custodial care.

The intellectual capabilities of the residents cover a wide range. The classification of residents by intellectual capacities includes: (a) the custodial--those individuals, who because of their extremely severe mental

limitations are unable to function in even the simplest self-help skills without the aid of another person; (b) the trainable--those individuals who, with proper training and education, may become working members of the community in a sheltered situation; and (c) the educable--those individuals who, by means of education and training may develop occupational and social skills to the extent that they can become active and virtually self-sufficient members of the community.

The services provided by the institution are rendered by the departments of education, psychology, recreation, physical education, social work, nursing service, and rehabilitation. The combined goal of these departments is the greatest possible development for each resident that is consistent with his physical and intellectual capabilities.

Selection and Description of the Field Experience

The independent variable in this study was the type of field experiences the subjects had with the mentally retarded. Types of experiences included: (a) an orientation lecture and tour of Partlow State School and Hospital; and (b) interpersonal contact involving working with the mentally retarded. The above experiences were selected as being representative of realistic opportunities that might be available to school groups or members of the general public interested in learning more about the institutionalized mentally retarded.

The orientation lecture and lecture tour were designed to furnish the subjects a cognitively directed exposure to the institution and the residents. This experience consisted of factual information pertaining to the grounds, the population, and observation of work and living areas.

The work experiences were provided within the living quarters of the residents. The activities in which the subjects participated consisted of simple games and songs and other recreational activity designed to teach the children to play together and be responsive to directions. The residents involved in this program were low trainable and the groups varied in size consistent with the activity. The exposure in this situation was designed to acquaint the subject as directly as possible with the life situation of the institutionalized mentally retarded.

Selection of Subjects

The subjects for this study were drawn from a population of undergraduate students at the University of Alabama enrolled in courses within the departments of Educational Psychology, Special Education, and Health, Physical Education, and Recreation in the College of Education. The selection of subjects for this study was determined by responses made on an Initial Screening Instrument (Appendix A). The purpose of this instrument was the elimination of those subjects from

the study who, by virtue of academic or personal experience, were classified as knowledgeable about the mentally retarded.

On the basis of the subjects' responses to the items on the Initial Screening Instrument, a judgement was made as to whether or not they were to be included in the sample population. After this initial screening, subjects were randomly assigned to the various treatment groups. Random assignment made more defensible the assumption of equality of treatment groups in that each subject had equal opportunity to be placed in any group. A control group also was selected to provide data for a comparison with the scores of the treatment groups.

Selection and Construction of Measuring Instruments

The instruments selected for use in this study were a form of the semantic differential, developed by Osgood and his associates, and an Initial Screening Instrument developed for this study. This instrument contained questions designed to expose any previous academic or personal experience an individual might have had related to the mentally retarded. The questions covered a range of activities from college course work to work in volunteer programs. The form of the semantic differential utilized in this study consisted of nine bipolar adjective pairs (Appendix B). The pairs selected for this

scale were chosen for their relevance to the area of mental retardation. The bipolar adjectives were arranged on a seven point scale and the respondents were asked to score their responses on an accompanying IBM answer sheet. The subjects were directed to respond to eleven stimulus words (institution, retardation, birth, children, custodial, trainable, educable, parent, low grade, cottage, and Partlow) by registering their first reaction to each word on each of the nine scales (good-bad, valuable-worthless, clean-dirty, strong-weak, large-small, heavy-light, active-passive, fast-slow, and sharp-dull).

Research Procedure

The selection of subjects was accomplished by the procedures discussed above. Those 220 individuals selected to be in the sample were then equally assigned to one of five groups.

Group I, designated as the control group, was pretested at the beginning of a semester and posttested at the end of the semester. This group was subjected to no treatment effect.

Group II subjects were pretested at the beginning of a semester, provided a lecture tour of the institution and posttested at the end of the semester. In the lecture tour provided for treatment Groups II, IV, and V, students were given relevant information about the function and operation

of the institution, while directly observing the living and work areas of the institution. The facilities observed included dining areas, laundry, school department, rehabilitation center, residential buildings, workshops, recreational areas, and the actual campus of the institution.

Group III subjects were pretested at the beginning of the semester, provided an orientation to the institution, and individual work experiences with the residents of Partlow State School and Hospital and finally posttested at the end of the semester. The work experience provided the subjects the opportunity to work directly with the residents in a training experience. The subjects were scheduled to work in a specific program designed to aid in the development of self-help skills. The subjects worked individually or in small groups with the residents. The size of the group varied in relation to the specific activity for the day. Shoe tying skills involved smaller groups than did the singing of songs, for example. The program, under the supervision of the Department of Psychology at Partlow, provided the subjects with direct personal contact with a mentally retarded individual or group of individuals.

Group IV subjects were pretested immediately before a lecture tour of the institution and posttested immediately following the conclusion of the tour. Both the pre- and post-tests were administered at Partlow to minimize the effects of any intervening variables. This procedure was aimed at documenting any shock effect that might have resulted from the exposure to a new situation.

Group V subjects were pretested at the beginning of the semester, at the conclusion of a lecture tour of the institution, and again at the conclusion of the semester. The purpose of the testing sequence for this group was to discover any relationship between the recency of the attitude measure and the time elapsed after the lecture tour.

The testing procedure was accomplished by the use of standardized directions that either were administered by an independent examiner, or over closed circuit television by the author. This was done to insure uniformity of test directions and to make possible simultaneous testing of several different groups of subjects. Testing conditions in all cases were designed to provide as great a degree of standardization as possible.

The treatment effects for each group were designed as nearly as possible to approximate the type of experiences that might be provided in the course of a teacher preparation program. The duration of the lecture tour was one and one-half to two and one-half hours. The lecture tours were arranged at times compatible with the normal course work of the semester. The work experiences provided the subjects in Group III were arranged on a weekly basis during the course of the semester. The subjects in this group were in contact with the residents for one and one-half hours per week for an eight week period. This provided them with approximately twelve hours of face-to-face contact with the mentally retarded.

The particular group assignment of each subject was viewed by their respective instructors as a part of their course requirements. That arrangement helped to insure a uniformity to the overall design. Secondly, such involvement of specific university courses may serve as a model for the introduction of field experiences in other teacher training programs.

The statistical analysis of these data was accomplished by utilization of an IBM 360 Mod 50 computer. The process involved the use of programs for compilation of item means within each group and analysis of variance to determine statistical significance at the .05 level. The .05 confidence interval signifies that the occurrence of the indicated results will result by chance in no more than five cases out of 100.

In general the research procedure involved the application of a model for field experiences in a teacher training program to a research design. That procedure then was evaluated in terms of a statistical analysis to determine whether or not the results of the different treatments were significant.

CHAPTER IV

ANALYSIS OF DATA

This chapter contains the results of the statistical analysis of the data related to the study. The data were the results of the pre- and posttest responses of 220 undergraduate students enrolled in the College of Education at the University of Alabama. In the control group and in each of the four experimental groups there were 44 subjects. The analysis of the data utilized mean compilation and analysis of variance. The F ratio was used to determine significance at the .05 level. All subjects were tested on a variation of the semantic differential to determine the effect of the treatment effect assigned to each group. An analysis of variance was made to test the null hypotheses stated for each group.

Evaluation of the Hypotheses

In testing the hypotheses of this study, means were computed for eleven target terms for each of the nine semantic differential scales for both pre- and posttest measures for each of the five groups. Table 1 presents a summary of the means obtained for pre- and post-treatments on the nine seman-

tic differential scales for the target term RETARDATION. A comparable table for a second target term--PARTLOW-- is presented in Table 2 and a third term--INSTITUTION-- is presented in Table 3. The first two target terms would appear to be most relevant to the attitudes toward the mentally retarded, which is of primary concern in this study, while the third term provides a generalized term that can be contrasted to the specific term Partlow. These target terms were selected because of their core relation to the material. The target term Retardation is a key word that has relevance in that it is the locus of the investigation. The terms Partlow and Institution are examples of specific and general labels associated with the non-person component of the area of retardation. Data were secured from all of the stimulus words but for the purpose of explanation the three target terms appeared to summarize the findings most adequately.

A Lindquist Type I design was used to test the significance of the differences between means of various groups. Table 4 presents a summary of the data obtained for the analysis of variance of a sample target term Partlow on the semantic differential scale Clean-Dirty. The results of mean compilation indicated that the average score for the 44 members of Group III on the pretest was 2.0 and on the the posttest measure was 3.3. From these data an F ratio of 7.55 was computed.

Comparable analyses were made for the 3,069 paired comparisons. Of these, the F-value for 119 were statistically

significant at the .05 level. Table 5 summarizes the significant tests indicating the number of changes in a positive direction or toward a more favorable attitude and the number of changes toward a negative or less favorable attitude.

In discussing the findings related to Hypothesis I, the significant F's for the multiple comparisons are identified. Hypothesis I. There is no statistically significant difference between the means in pre- and post-measures of attitude in Groups I, II, III, IV, and V.

TABLE 1

Pretest and Posttest Means on the Three Categories of the Differential Semantics for Five Groups for the Target Term Retardation

RETARDATION

	I		II		III		IV		V	
	<u>Pre</u>	<u>Post</u>	<u>Pre</u>	<u>Post</u>	<u>Pre</u>	<u>Post</u>	<u>Pre</u>	<u>Post</u>	<u>Pre</u>	<u>Post</u>
Evaluation 10	5.4	5.2	4.5	4.9	4.4	4.6	5.0	5.2	4.8	4.7
11	4.5	4.5	3.5	3.9	3.5	3.9	4.3	4.2	3.6	4.2
<u>12</u>	3.1	3.6	3.2	3.5	2.6	3.3	3.4	3.8	2.9	3.7
X	4.3	4.3	3.7	4.1	3.5	3.6	4.2	4.4	3.7	4.2
Potency 13	4.5	3.9	3.8	4.0	3.8	3.4	3.8	4.0	3.9	3.8
14	3.1	3.0	3.0	2.9	2.9	2.8	2.9	2.4	3.4	3.2
<u>15</u>	2.8	3.0	3.0	2.9	2.8	2.6	2.8	2.9	3.1	3.2
X	3.5	3.3	3.3	3.3	3.2	2.9	3.2	3.1	3.5	3.5
Activity 16	3.9	3.9	3.5	3.3	3.5	2.8	3.8	3.2	3.4	4.0
17	5.3	4.6	4.6	4.7	4.6	4.3	4.8	3.7	4.8	4.3
<u>18</u>	4.9	4.6	4.4	4.3	4.1	4.3	4.8	3.8	4.3	4.3
X	4.7	4.4	4.2	4.1	4.1	3.8	4.5	3.6	4.2	4.2

Pretest and Posttest Means on the Three Categories of the Differential Semantics for Five Groups for the Target Term Partlow

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TABLE 3

Pretest and Posttest Means on the Three Categories of the Differential
Semantics for Five Groups for the Target Term Institution

INSTITUTION

	I		II		III		IV		V	
	<u>Pre</u>	<u>Post</u>	<u>Pre</u>	<u>Post</u>	<u>Pre</u>	<u>Post</u>	<u>Pre</u>	<u>Post</u>	<u>Pre</u>	<u>Post</u>
Evaluation (1)	2.2	2.2	1.5	1.7	1.6	1.7	2.0	1.0	1.7	2.2
(2)	1.6	1.7	1.0	1.6	1.0	1.5	1.1	1.6	1.0	1.4
<u>(3)</u>	2.5	2.8	2.7	3.4	2.0	2.9	2.8	2.9	2.0	3.5
X	2.1	2.2	1.4	2.23	1.5	2.03	1.96	1.8	1.56	2.36
Potency (4)	2.5	2.4	2.1	2.5	2.0	2.4	2.7	2.1	2.0	2.5
(5)	1.9	2.3	2.3	1.8	2.0	1.9	1.7	1.5	1.5	2.0
<u>(6)</u>	2.8	3.0	2.8	2.6	2.7	2.3	2.6	2.3	2.4	2.2
X	2.4	2.58	2.4	2.3	2.23	2.2	2.33	1.96	2.96	2.23
Activity (7)	2.1	2.3	1.8	2.1	1.6	2.1	1.5	1.9	1.6	2.4
(8)	3.4	3.3	2.9	3.8	2.9	3.1	3.7	3.3	2.9	3.7
<u>(9)</u>	3.5	3.2	3.0	3.3	2.3	2.9	3.4	2.9	2.8	3.4
X	3.0	2.93	2.9	3.06	2.33	2.7	2.9	2.7	2.43	3.16
										3.03

TABLE 4

Summary of Analysis of Variance to Test
Significance of Difference in Means of
the Pre- and Posttest Scores for Group III
on Target Term Partlow for the Clean-
Dirty Scale

SOURCE	SS	DF	MS	F
TREATMENT	18.18	1	18.18	7.55
ERROR	207.09	86	2.41	
TOTAL	225.27	87		

TABLE 5

RESPONSES BY COUNT INDICATING POSITIVE AND NEGATIVE ATTITUDE SHIFTS

	Group I pre- and posttest	Group II pre- and posttest	Group III pre- and posttest	Group IV pre- and posttest	Group V pre- and posttest I	Group V pre- and posttest II
Positive	3	0	1	7	3	0
Negative	9	15	21	19	29	44
Total	12	15	22	26	32	44

Figures indicate instances where mean scores on a test item were significant at or beyond the .05 confidence interval.

In each of the following cases a statistically significant shift in attitude was observed:

Group I Pre and Group I Post Measures

A positive shift in attitudes occurred on responses to the following words on the scales indicated (Mean values for each pre- and post-measure are placed in parentheses):

Retardation	Fast-Slow (5.3; 4.6)
Children	Large-Small (4.1; 3.5)
Cottage	Large-Small (4.2; 3.5)

A negative shift in attitudes was assumed by responses to the following words on the scales indicated:

Birth	Good-Bad (0.4; 0.9)
	Valuable-Worthless (0.4; 1.0)
	Active-Passive (1.3; 2.0)
	Sharp-Dull (1.9; 2.5)
Children	Valuable-Worthless (0.4; 0.8)
	Sharp-Dull (1.3; 2.0)
	Fast-Slow (1.0; 1.7)
Parent	Clean-Dirty (0.8; 1.3)
Partlow	Strong-Weak (2.0; 2.6)

Thus, both positive and negative shifts in attitudes occurred during the course of the semester, even for control group students who were not provided specific treatments.

Group II Pre and Group II Post Measures

A positive shift in attitude was assumed by responses to the following words on the scales indicated:

There were no significant positive shifts in attitudes.

A negative shift in attitudes was assumed by responses to the following words on the scales indicated:

Institution	Valuable-Worthless (1.0;1.7)
	Clean-Dirty (2.7;3.4)
	Fast-Slow (2.9;3.8)
Children	Valuable-Worthless (0.3;0.8)
Custodial	Fast-Slow (2.9;3.6)
	Sharp-Dull (3.0;3.7)
Trainable	Valuable-Worthless (0.8;1.7)
	Strong-Weak (1.8;2.6)
Educable	Valuable-Worthless (0.6;1.3)
	Strong-Weak (1.6;2.2)
Cottage	Good-Bad (1.8;2.7)
	Clean-Dirty (1.4;2.8)
Partlow	Good-Bad (1.1;2.0)
	Valuable-Worthless (0.7;1.6)
	Clean-Dirty (2.4;3.4)

More significant shifts occurred for Group II than for Group I. The shifts, however, were in the negative direction as measured by the semantic differential. A lecture tour apparently was not effective in developing positive attitudes toward the mentally retarded. It should be pointed out that the originally expressed attitude of the members of this group was generally positive and it would have been difficult for the attitudes to become more positive.

Group III Pre and Group III Post Measures

A positive shift in attitude occurred on the response to the following word on the scale indicated:

Cottage	Large-Small (4.5;3.4)
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A negative shift in attitudes was assumed by responses to the following words on the scales indicated:

Institution	Clean-Dirty (2.0;2.9)
	Sharp-Dull (2.3;2.9)
Retardation	Clean-Dirty (2.6;3.3)
Birth	Clean-Dirty (0.8;1.6)
Children	Clean-Dirty (1.4;2.0)
Custodial	Clean-Dirty (2.0;2.8)
	Active-Passive (2.2;3.1)

Trainable	Valuable-Worthless (0.5;1.0)
	Large-Small (2.5;2.9)
Educable	Sharp-Dull (1.4;2.3)
Parent	Active-Passive (0.9;1.7)
Cottage	Clean-Dirty (1.5;2.7)
	Large-Small (4.5;3.4)
Partlow	Valuable-Worthless (0.5;1.3)
	Clean-Dirty (2.0;3.3)
	Strong-Weak (2.0;2.6)
	Active-Passive (1.7;2.7)
	Sharp-Dull (2.5;3.3)

Again more significant changes in attitudes occurred for Group III than Group I. But again the changes occurring were in the negative direction. The work experiences apparently generated such connotations as dirty, dull, passive, and worthless with respect to the mentally retarded.

Group IV Pre and Group IV Post Measures

A positive shift in attitudes was indicated by responses to the following words on the scales indicated:

Institution	Good-Bad (2.0;1.0)
	Valuable-Worthless (1.1;0.6)
Retardation	Fast-Slow (4.8;3.7)
	Sharp-Dull (4.8;3.8)
Cottage	Large-Small (3.6;2.7)
	Heavy-Light (3.6;2.5)

A negative shift in attitudes was assumed by responses to the following words on the scales indicated:

Institution	Clean-Dirty (2.8;2.9)
Birth	Valuable-Worthless (0.5;1.0)
Children	Active-Passive (1.0;1.6)
	Fast-Slow (1.5;2.2)
	Sharp-Dull (1.5;2.3)
Custodial	Good-Bad (2.2;3.4)
	Valuable-Worthless (1.8;2.6)
	Clean-Dirty (2.7;3.5)
	Strong-Weak (2.4;3.1)
	Heavy-Light (2.7;3.3)
	Fast-Slow (2.9;3.7)
	Sharp-Dull (2.8;3.8)

Educable	Large-Small (2.2;3.0)
Parent	Large-Small (1.6;2.1)
	Active-Passive (1.0;2.0)
	Fast-Slow (1.5;2.4)
	Sharp-Dull (1.4;2.0)
Cottage	Good-Bad (1.6;2.6)
	Clean-Dirty (1.8;2.8)
	Heavy-Light (3.2;3.3)
	Sharp-Dull (2.6;3.4)

More attitudinal changes apparently occurred for Group IV than for Group I. Both positive and negative changes may be noted in rather a complex pattern. Some positive changes occurred with respect to the target terms institution, retardation, and cottage, but negative changes occurred with respect to seven other target terms.

Group V Pre and Group V Post I Measures

A positive shift in attitudes was assumed by responses to the following words on the scales indicated:

Retardation	Fast-Slow (4.8;4.1)
Cottage	Large-Small (4.1;3.3)

A negative shift in attitudes was assumed by responses to the following words on the scales indicated:

Institution	Clean-Dirty (2.8;2.9)
	Active-Passive (1.6;2.4)
	Fast-Slow (2.9;3.7)
Retardation	Clean-Dirty (2.8;3.7)
Birth	Good-Bad (0.2;0.6)
	Valuable-Worthless (0.3;0.8)
	Sharp-Dull (1.6;2.2)
Children	Fast-Slow (1.1;1.7)
	Sharp-Dull (1.1;1.7)
Custodial	Good-Bad (2.6;4.1)
	Valuable-Worthless (1.9;3.5)
	Clean-Dirty (2.2;3.3)
	Strong-Weak (2.6;3.9)
	Large-Small (2.6;3.4)
	Active-Passive (2.7;4.3)
	Fast-Slow (3.3;4.1)

Trainable	Good-Bad (0.9;1.8)
	Valuable-Worthless (0.9;1.7)
	Clean-Dirty (1.9;2.6)
	Active-Passive (1.6;2.2)
Educable	Valuable-Worthless (0.6;1.1)
	Clean-Dirty (1.6;2.3)
Parent	Strong-Weak (0.9;1.4)
	Active-Passive (1.0;1.7)
	Sharp-Dull (1.0;1.9)
Cottage	Good-Bad (1.8;3.2)
	Clean-Dirty (1.3;3.1)
	Sharp-Dull (2.9;3.6)
Partlow	Active-Passive (1.6;1.9)

Immediately after the lecture tour for Group V, a number of attitudes were modified in a negative direction with very little modification occurring in a positive direction.

Group V Pre and Group V Post II Measures

A positive shift in attitudes was assumed by responses to the following words on the scales indicated:

There were no significant positive shifts in attitudes.

A negative shift in attitudes was assumed by responses to the following words on the scales indicated:

Institution	Clean-Dirty (2.0;2.9)
	Active-Passive (1.6;2.4)
	Sharp-Dull (2.8;3.4)
Retardation	Clean-Dirty (2.9;3.7)
	Good-Bad (0.2;0.8)
	Valuable-Worthless (0.3;0.7)
Birth	Sharp-Dull (1.1;1.6)
	Good-Bad (2.6;3.6)
Children	Valuable-Worthless (1.9;3.0)
	Clean-Dirty (2.2;3.3)
	Strong-Weak (2.6;3.3)
Custodial	Large-Small (2.6;3.4)
	Active-Passive (2.7;3.8)
	Fast-Slow (3.3;3.9)
Trainable	Sharp-Dull (3.5;4.1)
	Good-Bad (0.9;1.8)
	Valuable-Worthless (0.9;1.7)
	Clean-Dirty (1.9;2.7)
	Strong-Weak (2.1;3.0)

	Large-Small (2.7;3.1)
	Heavy-Light (2.8;3.9)
	Active-Passive (1.6;2.8)
	Fast-Slow (2.6;3.3)
Educable	Sharp-Dull (2.2;3.2)
	Good-Bad (0.7;1.4)
	Valuable-Worthless (0.6;1.6)
	Clean-Dirty (1.6;2.8)
	Strong-Weak (1.7;2.4)
	Large-Small (2.4;3.1)
	Heavy-Light (2.7;3.1)
	Active-Passive (1.5;2.4)
	Fast-Slow (2.0;2.8)
Parent	Sharp-Dull (1.8;2.8)
	Good-Bad (0.5;0.9)
	Valuable-Worthless (0.4;0.9)
	Clean-Dirty (0.6;1.4)
	Strong-Weak (0.9;1.4)
	Active-Passive (1.0;1.6)
	Sharp-Dull (1.0;1.6)
Cottage	Clean-Dirty (1.3;2.8)
Partlow	Valuable-Worthless (0.8;1.3)
	Clean-Dirty (2.3;3.0)
	Strong-Weak (1.7;2.5)
	Large-Small (1.6;2.4)

A second measure of attitudes for Group V indicated that the negative attitudes generated by the lecture tour tended to persist at least up to the end of the semester. In some instances further significant negative changes occurred between the two posttest situations.

Hypothesis II: There are no statistically significant differences among the pre- to posttest changes in means of attitudes among the major treatment groups.

A Lindquist Type I design was used to test whether the treatments resulted in a differential shift in attitudes. For this analysis three of the target terms were used. The three target words chosen, Retardation, Partlow and Institution, were selected because of their specificity to the area

of the mentally retarded. The term, Retardation, had direct relation to the entire range of concepts contained in the study. The term, Institution, was a general term that had wide association with the field and was representative of that area that was not people oriented. The third term, Partlow, was selected for its direct relevance to the experiences that the subjects had with the mentally retarded. These terms were representative of the data sought by the research design. Nine analyses were conducted for each of the three terms, one for each of the nine semantic differential scales.

Significant F scores at the .05 level for three target terms are listed indicating the appropriate semantic differential scales. The following words and scales indicate all the statistically significant negatively and positively directed responses from all the groups:

Institution	Good-Bad Valuable-Worthless Sharp-Dull
Partlow	Good-Bad Valuable-Worthless Active-Passive
Retardation	Good-Bad Valuable-Worthless Clean-Dirty Active-Passive Fast-Slow Sharp-Dull

The nine analyses made for each of the three target terms yielded a total of nine significant comparisons.

Significant negative shifts occurred in Group I on the responses to the target term Institution on none of the

semantic differential scales. There were also no significant positive shifts on the target term Institution.

Significant negative shifts occurred in Group II on the responses to the target term Institution on the following scales: Clean-Dirty and Sharp-Dull. There were no significant positive attitude shifts.

Significant negative shifts occurred in Group III on the responses to the target term Institution on the following scales: Clean-Dirty and Sharp-Dull. There were no significant positive attitude shifts.

Significant negative shifts occurred in Group IV on the response to the target term Institution on the following scale: Clean-Dirty. A significant positive change was made on the Sharp-Dull scale.

Significant negative shifts occurred in Group I on the responses to the target term Partlow on the following semantic differential scales: Good-Bad and Clean-Dirty. There were no significant positive shifts.

Significant negative shifts occurred in Group II on the responses to the target term Partlow on the following scales: Good-Bad and Clean-Dirty. There were no significant positive attitude shifts.

Significant negative shifts occurred in Group III on the response to the target term Partlow on the following scales: Good-Bad, Clean-Dirty, and Active-Passive. There were no significant positive attitude shifts.

There were no significant positive or negative shifts in Group IV.

Significant negative shifts occurred in Group I on the responses to the target term Partlow on the following semantic differential scale: Clean-Dirty. A significant positive shift was made on the Fast-Slow scale.

Significant negative shifts occurred in Group II on the responses to the target term Retardation on the following scales: Good-Bad, Valuable-Worthless, and Clean-Dirty. There were no significant positive attitude shifts.

Significant negative shifts occurred in Group III on the responses to the target term Retardation on the following scales: Valuable-Worthless and Clean-Dirty. There were significant positive attitude shifts on the Active-Passive and Fast-Slow scales.

Significant negative shifts occurred in Group IV on the response to the target term Retardation on the following scale: Clean-Dirty. A significant positive change was made on the Active-Passive, Fast-Slow and Sharp-Dull scales.

In each case the Good-Bad, Valuable-Worthless, and Clean-Dirty scales are examples of an evaluation factor. The Active-Passive, Fast-Slow, and Sharp-Dull scales are examples of the activity factor.

CHAPTER V

SUMMARY, DISCUSSION, AND RECOMMENDATIONS

Summary

This study was designed to add to the limited research data available on attitude modification toward the mentally retarded. The hypotheses were designed to provide research evidence concerning the effectiveness of some selected methods currently in use to teach about the mentally retarded. The attitudinal components of these methods were investigated to determine which produced significant changes in attitudes.

The analysis of this research design was accomplished by an analysis of variance to determine significance of pre- and post-measures on the semantic differential in the four experimental groups and the control group.

The subjects for this study were 220 undergraduate students at the University of Alabama. They were screened for previous exposure to the mentally retarded and those selected as being unknowledgeable were randomly assigned to the four experimental groups.

In the treatment groups the subjects were exposed

to conditions to provide a comparison of the effects of academic experience, observation, and personal interaction. Although observation is a component of academic experience and personal interaction, attempts were made in this study to provide experiences that related more directly to one treatment than another. The treatment effects also were evaluated as a function of time.

The control group was pretested in the same manner as the experimental groups but was not subjected to any other experimental effects. They similarly were posttested at the end of the semester. The instrument used for all groups was the semantic differential consisting of nine pairs of bipolar adjectives and eleven stimulus words.

The data were subjected to an analysis of variance that resulted in the rejection of each null hypothesis at the .05 confidence level. Evaluation of the mean scores indicated that attitudes had shifted in both positive and negative directions.

Discussion and Interpretation of the Findings

A closer examination of the significant scores for the groups was necessary to appreciate the implications that they have for classroom application. While there were significant measures within and between each of the groups there were some comparisons that were more meaningful in the larger context.

The comparison of pre- and post-measures between the different groups indicated that the treatments employed had different effects on the subjects. The findings in Group IV of both positive and negative significant shifts in attitude were interpreted as having resulted from an initial exposure to a new situation that was both depressing and at the same time hopeful. In Group III the subjects were in direct contact with a very realistic cottage situation. The program in which they participated was concerned with the modification of behavior of the trainable child. The result of this situation was evidenced in the large number of negatively directed attitude shifts. In many cases the initial attitude was quite positively expressed so that a negative shift might still have produced a final measure that was positive. In the case of Group V, posttest II, the very large number of significant negative shifts was interpreted as a result of an assimilation of second thoughts. In an area in which relatively little was originally known, the results appeared to be indicative of a re-evaluation of an immediate post-reaction to the lecture tour. The passage of time between the two posttests in Group V brought about a larger number of negatively directed attitude shifts than in any other treatment group.

It was noted that there were very few positive shifts in attitude between any of the pretest and posttest measures. This effect was interpreted in terms of the particular nature of the field experiences. Despite the fact that

the subjects were college students, there was a uniform lack of knowledge and understanding about the mentally retarded individual. The subjects were placed in a situation in which they were able to experience first-hand the stark reality of institutional life for the mentally retarded. In most cases this was an eye-opening experience and as the data indicate the results were more depressing than elevating and correspondingly attitudes shifted in a negative direction. It was assumed that negative shifts in attitude were based not on feelings of worthlessness of the mentally retarded as individuals, but on a better appreciation of the severity of the condition, and the need for extensive care and training if maximum potential is to be reached.

Recommendations

The purpose of this study was to investigate the processes by which an individual's attitudes may be modified. This was done to add to the available information and to provide data that would be useful in the planning and implementation of teacher education and training programs. Specifically the data in this study should provide some information of the problem of how best to establish field experiences for students preparing to become professionals in the field of education.

The information produced by this study points out a very definite need for effective programs to be developed

and incorporated within college courses to acquaint students with the nature and prognosis of the mentally retarded. The recognition of individual differences is one of the major tenets of American education and without a directed effort a large portion of the population will go unserved in the schools. If students are to be fully educated in the area of individual differences, it is imperative that more meaningful information on the mentally retarded be included in the curriculum.

The data from this study indicated that greater involvement on the part of students with the mentally retarded individual was necessary if a realistic understanding of their situation was to result. This is particularly significant in the case of those students who are preparing for professional careers in the fields of educational psychology and special education. It is the responsibility of these individuals to be acutely aware of the problems and paths for amelioration of the mentally retarded. For this to be accomplished, programs must be developed that will provide the necessary interpersonal contact. Without this affective component the student will have only a sterile academic awareness of the mentally retarded and be unable to work effectively for the betterment of their situation.

From a practical standpoint further research is needed to document the specific types of activities that produce the greatest cognitive and affective changes. It would

be meaningful to identify the relationships between the time spent in interpersonal encounters and the resultant shifts in attitudes. These data would be useful in establishing requirements for field work experiences in college courses pertaining to the exceptional child.

It should be pointed out that although the data indicated that in most cases the shift in attitudes was a negative finding, an individual who is unaware of the conditions that his fellow man is in may have a positive attitude toward those conditions. If he learns then that the conditions that he assumed to exist really are less than desirable, a negative shift in attitude may result. A negative shift in attitude then may produce action rather than complacency. It is necessary for an individual to become aware first of a need before steps can be taken to meet the need. In the case of the mentally retarded much has been written and said about the problems that they face. All of this has been to the good but there are many problems yet to be solved. Along with the unsolved problems there still are countless numbers of people who are unaware of the nature of mental retardation and those persons afflicted by it. It is the sincere hope that further research will provide answers to these problems and that the attitude of the general public toward the mentally retarded ultimately will shift positively.

APPENDICES

APPENDIX A

INITIAL SCREENING INSTRUMENT

Name _____ Class _____

How many courses have you had that have dealt specifically
with mental retardation? 0 1 2 3 more

Have you ever worked in a volunteer program involving the
mentally retarded? Yes No

Have you ever been personally associated with a mentally
retarded individual? Yes No

How would you rate your present knowledge of mental retard-
ation on the following continuum?

unknowledgeable 1 2 3 4 5 6 7 knowledgeable

If you have gained knowledge about mental retardation from
any source other than those listed above, please indicate
the source.

APPENDIX B

Instructions for the Semantic Differential

This test has no right or wrong answers. The purpose of the test is to measure your immediate reaction to eleven words.

On the test sheet you see eleven words followed by numbers in parenthesis. These numbers indicate the numbers on the answer sheet. Each word requires nine responses on the answer sheet.

You begin by taking word number one (Institution) and marking your first impression of it on the Good-Bad continuum. Next take the word Institution and respond to it on the Valuable-Worthless continuum. This will be number two on the answer sheet. Continue to respond to the word Institution through the Sharp-Dull scale. The word Retardation will be responded to on the Good-Bad continuum beginning with number ten on the answer sheet. A three response is a completely neutral response, a six response is a very negative response and a 0 response is a very positive response. On your IBM answer sheet you are only concerned with columns 0 through six. After making your response to the first word -- Institution -- on the Good-Bad continuum, you proceed through the other eight scales indicating your response to each on the answer sheet.

Each of the eleven words is rated on each of the nine scales. Thus your last response will be to the word Partlow on the Sharp-Dull continuum. This response will be number 99 on your answer sheet.

1. Institution (1- 9)
2. Retardation (10-18)
3. Birth (19-27)
4. Children (28-36)
5. Custodial (37-45)
6. Trainable (46-54)
7. Educable (55-63)
8. Parent (64-72)
9. Low Grade (73-81)
10. Cottage (82-90)
11. Partlow (91-99)

	0	1	2	3	4	5	6	
Good	___	:	___	:	___	:	___	Bad
Valuable	___	:	___	:	___	:	___	Worthless
Clean	___	:	___	:	___	:	___	Dirty
Strong	___	:	___	:	___	:	___	Weak
Large	___	:	___	:	___	:	___	Small
Heavy	___	:	___	:	___	:	___	Light
Active	___	:	___	:	___	:	___	Passive
Fast	___	:	___	:	___	:	___	Slow
Sharp	___	:	___	:	___	:	___	Dull

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