

1984

An experimental study of the effects of goal interdependence on the anxiety levels and attitudes of prospective teachers towards visually impaired persons

Clarrissa D. Jackson Banks
College of William & Mary - School of Education

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**AN EXPERIMENTAL STUDY OF THE EFFECTS OF GOAL
INTERDEPENDENCE ON THE ANXIETY LEVELS AND ATTITUDES OF
PROSPECTIVE TEACHERS TOWARD VISUALLY IMPAIRED PERSONS**

The College of William and Mary in Virginia

Ed.D. 1984

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ON THE ANXIETY LEVELS AND ATTITUDES OF PROSPECTIVE
TEACHERS TOWARD VISUALLY IMPAIRED PERSONS

A Dissertation
Presented to
The Faculty of the School of Education
The College of William and Mary in Virginia

In Partial Fulfillment
Of the Requirements for the Degree
Doctor of Education


by
Clarissa D. Jackson Banks
December, 1984


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BY

Clarrissa D. Jackson Banks

Approved December 1984


Ronald C. Wheeler, Ph.D.


James M. Yankovich, Ed.D.


Louis P. Messier, Ed.D.
Chairman of Doctoral
Committee

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DEDICATION

To my late husband, Lewis E. Banks who inspired me throughout
the way.

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CHAPTER I

INTRODUCTION

Attempts at implementing the mandates of P.L. 94-142 (The Education For All Handicapped Children Act of 1975) and the Rehabilitation Act of 1973, Section 504, over the past few years have magnified the fact that physically disabled persons encounter negative attitudes held by their non-physically disabled peers (Ayer, 1970; Kang & Masoodi, 1977; Keller, 1982; Kutner, 1971; Larsen, 1975; McDaniel, 1982; Rapiar, Adelson, Carey & Croke, 1972; Taylor, 1982; Yunker, Block, & Youngg, 1966). Teachers, on all levels, are found to hold negative attitudes also. Teachers have found themselves faced with the reality of integrating students with disabilities into educational programs designed for nondisabled students and many lack the proper attitudinal orientation to do so. A lack of skill or desire to educate students with disabilities according to the mandates of P.L. 94-142 often leads to a hindrance of the implementation process (Bensky, Shaw, Gouse, Bates, Dixon, & Beans, 1980; Larrivee, 1981; McDaniel, 1982).

Statement of the Problem

A central issue is how to aid teachers and others to develop positive and nonstereotypic attitudes toward physically disabled persons so that successful and educational integration can occur. The purpose

of this research was to determine if the attitudes of undergraduate prospective teachers at Hampton Institute toward visually impaired persons could be positively effected by cooperative game play and the structured interview as well as to ascertain if cooperative game play is a more effective method for attitude change. The effects of these two goal interdependent types of social interaction were measured independently to identify any relationships between them as effective methods for influencing change in the attitudes of prospective teachers toward the visually impaired.

Need for the Study

A positive attitude toward disabled persons represents a prime factor in social acceptance of them. Although there is some evidence (Taylor, 1982) of integration of the disabled in schools and communities of various states, other research (Keller, 1982; McDaniel, 1982) supports the view that negative attitudes toward the disabled are still quite extensive within the broader sector of the population.

Public attitudes toward disabled persons are generally less than positive (Ayer, 1970; Keller, 1982; Kutner, 1971; Larsen, 1975; McDaniel, 1982; Rapier, et al, 1972; Taylor, 1982; Yaker, Block, & Youngg, 1966). Research revealed that difficulties encountered in interpersonal relations seemed to form the basis for the negative views which are held. For example, Rapier, et al (1972) and Dembo (1982) found that nondisabled persons regarded disabled individuals as being different and commonly considered this difference as undesirable. The person considered in this light is, therefore, seen as an improbable

friend, spouse, teacher, administrator, or the like, and is perceived "as a lesser human being in general" (Dembo, 1982, p. 133). Rehabilitation workers are reported as having a universal concern over these findings (Large, 1982).

Moreover, a lack of opportunity to become personally acquainted with each other creates a barrier to positive relations. Keller (1982) stated, "The deep-rooted fear that 'this could happen to me' often causes the able-bodied to complicate the situation with a psychological defense mechanism of avoiding contact with anyone who is disabled" (p. 1). Yet contact without the removal of psychological barriers will preclude the formation of a basis for a good relationship.

Negativism is expressed in other aspects of life. Ayer (1970) researched the employability of the handicapped and found that employers generally restrict their choice of hiring handicapped individuals mainly on the basis of the presence of a disability rather than on the specification of activities or responsibilities these persons would be unable to perform. Such a negative attitude persists notwithstanding the findings of Yuker, Block, & Youngg (1966) who found that an employee's attitudes toward himself and his disability as well as his level of motivation seemed to be more important determinants of performance on the job than the presence of a disability.

Ruffner (1984) pointed out a serious problem facing the disabled as they seek access to the acting profession. That there is competition among actors for jobs is well known. However, only a few disabled actors have been successful enough to secure roles in the film and television

industries. This is probably due to the conditioning imposed upon disabled persons by society causing them to become unobtrusive, passive, and noncompetitive (Ruffner, 1984).

The real estate industry has also witnessed the effects of passive negativism. The shortage of wheel chair accessible rentals and low-income housing for the disabled is more acute than housing for the nondisabled (Keller, 1982). Nevertheless with the exception of veteran funded housing the industry remains insensitive to the need (Keller, 1982).

Furthermore, realtors have yet to overcome psychological barriers in dealing with the disabled in the matters of housing conditions (Keller, 1982). They are still uncomfortable in face-to-face contact with someone who has lost a bodily function because of amputation, stroke, disease, injuries to the brain or spinal cord, or hereditary factors. Once a basis for common understanding and rapport have been established, the uneasiness should disappear (Keller, 1982).

McDaniel (1982) found that generally negative attitudes of teachers toward disabled persons have had an impact on the progress of the mainstreaming process. Only if teachers possess positive attitudes toward the disabled will they be able to provide the most enhancing learning environment for the acceptance of the disabled by their nondisabled peers (Rapier, et al., 1972).

According to Gellman (1959), prejudice toward disabled individuals exists at all socioeconomic levels and in all geographic regions of the United States. Other researchers lend support to this view. Demo

(1982) explained comments on the presence of members of our society who devalue disabled persons by considering them as "socially less powerful or less valuable" and thereby resort to estrangement from them. Those who devalue deny the disabled persons the power to decision making in community life and render it difficult for them to acquire the tools needed to improve their actions and living conditions (Dembo, 1982; Keller, 1982). Preferential hiring practices (supported by the recent proposed revision of Section 504, Norman and Taymans, 1982), interpersonal aversion and differential treatment of a pitying nature are by products of prejudiced, societal attitudes (Evasn, 1976). Until persons with physical disabilities are accepted as individuals who, like all others, have differing skills, interests, personality traits, they will continue to bear the consequences of stereotypic attitudes and fear on the part of persons who control their life opportunities (Dembo, 1982; Keller, 1982).

The disabled have been segregated, stereotyped, subjected to prejudice, and made vulnerable to inequities in housing, employment, and education. The federal law, Education for All Handicapped Children Act of 1975 (P.L. 94-142) was passed in recognition of the special problems and needs of persons whose disabilities have frequently resulted in social discrimination and isolation from the mainstream of society.

The legislators envisioned the public school as the site where the process of social acceptance of disabled and handicapped persons would commence. However, a myriad of problems have been associated with the

process. The most obvious of these problems concerns the reluctance of many classroom teachers to accept disabled students into the regular classroom setting. General negative attitudes seem to be held toward disabled students (Bensky et al, 1980; Larrivee, 1981; McDaniel, 1982). The question of rationale is aptly raised.

McDaniel (1982) suggested lack of training could account for the negative attitudes which teachers may hold for disabled students. She conducted a study to determine change in negative attitudes toward disabled persons, as measured by the Attitudes Toward Disabled Persons Scale (ATDP) (Yuker, Block, & Campbell, 1960). The study provided information about the disabled to three groups of subjects, including vocational teachers and teacher trainees. The experimental treatment consisted of vocational special needs workshops, graduate and undergraduate courses in vocational special needs, and the regular vocational education courses infused with information on the disabled. The findings of her study with vocational teachers and teacher trainees (N = 288) indicated that inservice workshops and undergraduate level vocational special needs courses were very effective in modifying attitudes of vocational teachers toward the disabled.

A study by Bensky et al (1981) found that the feeling of stress due to the lack of knowledge and skills required to teach disabled students contributed to the presence of negative attitudes on the part of teachers.

Furthermore, Carkhuff (1982) found that affective education has not been integrated into the experiences of teacher trainees. To face the

issues, teachers must have basic knowledge about disabled persons as well as positive attitudes toward them. Teacher preparation programs need to impart knowledge in affective education (Fuchigami, 1980; Lombardi, Meadowcroft, & Strasburger, 1982).

The passage of P.L. 94-142 has intensified the need to train prospective teachers for the acceptance of disabled students into the regular classroom (Bensky et al, 1980; Fuchigami, 1980; Larrivee, 1981; Lombardi et al, 1982; McDaniel, 1982). This law requires that all schools provide a free appropriate education for all children, regardless of the severity of their handicapping condition. The education should occur within the context of the regular classroom environment and with non-handicapped peers. Exceptions to this "occur only when the nature or severity of the handicap is such that education in regular classes...cannot be achieved satisfactorily" (Education for All Handicapped Children Act of 1975). So through the mandates stemming from it, exceptional children are to be served appropriately by the public schools.

Another major feature is the requirement that each state incorporate within its annual educational plans a program of personnel development (National, Note 1). This program impacts on preservice training as the State educational agency must provide training to all who are engaged in the preparation for teaching all children including the teaching of the handicapped.

Many educators and researchers agree that teacher attitudes play an important role in the whole process of teaching for they influence

the teacher's performance of roles important to providing special services (Bensky, et al. 1980; Carkhuff, 1982; Fuchigami, 1980; Larrivee, 1981; Lombardi, et al, 1982; McDaniel, 1982) to children. Teachers must be able to appropriately respond to the specific needs of students in their academic, physical, and social development. A positive attitude is a potent variable in determining successful results of the teacher's effort.

In the education of handicapped children, the attitudes of teachers are extremely important (Bensky et al. 1980; Donaldson, 1980; Dunlop, Stoneman, & Cantrell, 1980; Fuchigami, 1980; Larrivee, 1981; McDaniel, 1982; Salends & Johns, 1983). Research (Donaldson, 1980; Fuchigami, 1980; Larrivee, 1981) has revealed that P.L. 94-142 requirements place the primary responsibility for mainstreaming handicapped or disabled students on the regular classroom teacher. The regular classroom teacher will be called on to meet new instructional and management challenges. The teacher's response to this obligation depends on his/her attitude or willingness to accept students with disabilities.

Acknowledging the importance of teacher attitude in implementing the mandates of the law, this research has practical implications for the identification of a technique for modifying attitudes toward disabled persons.

In contrast to early research which identified the existence of negativism toward the disabled, this study investigated the effects of two kinds of goal interdependent experiences in order to identify their effects on attitudinal modification and to provide guidelines for

developing strategies potentially useful in the affective education of prospective teachers.

Since this study was concerned with testing social conditions to influence attitude change, the research focused on theories relative to patterns of interaction which promoted interpersonal attraction in relation to attitude formation and change. The following discussion provides an overview of the underlying theoretical constructs used.

Theoretical Rationale

Interactions between the nondisabled and the disabled are laden with discomfort (Davis, 1961; Evans, 1976; Keller, 1982; Kleck, 1968, 1969; Kleck, Ono, & Hastorf, 1966, 1968, 1969; Large, 1982; Siller, 1967). This raises several questions: Why? What creates this interactive effect between the nondisabled and the disabled? Does the state of discomfort lie in the interactive relation itself?

An examination of related research suggests possible answers. Siller (1967) examined the question of why negative reactions occur during periods of interaction and was able to delineate factors which he felt were responsible for creating this negative effect between the disabled and the nondisabled. Siller (1967) found that reactions are adverse because the disabled have "functional limitations" to which the nondisabled respond negatively for fear they may have to abstain from certain activities which cannot be shared by a disabled companion. He identified another category of negative responses which he labeled "aesthetic-sexual aversion" attributing negative attitudes in this instance to affective, "gut reactions." Attitudes of this nature arise

from reactions to body deformations or differences in certain types of disabilities (e.g., amputation, muscular dystrophy, etc.). A feeling of discomfort accompanies the "gut reaction" because the person with the disability does not "look right," or is atypical of American ideals of beauty and sexual attractiveness.

Siller's (1967) studies also revealed that nondisabled persons experience discomfort caused by the "painful" experiences of the disabled. Fear that close relations with the disabled might lead to the placement of extra burdens on one's self, fear that others will degrade oneself because of having a disabled friend, fear that one's children may inherit the disability were other sources of negative reactions identified.

Above all, the major source of negative reactions appeared as "strain in social interaction." This source involves uneasiness, inhibition, and the uncertainty experienced by the nondisabled in their social interaction with disabled persons. Generally, nondisabled persons become uncomfortable in their social interactions with disabled persons because they must deal with such issues as staring, curiosity, fear of hurting feelings, references to limited functions and words associated with disability, which lead to tension and discomfort (Siller, 1967). The universality of these reactions among the nondisabled produces negative feelings which prompt a reluctance to interact with the person who is disabled (Donaldson, 1980; Evans, 1976; Yunker et al, 1966).

The nondisabled's behavior toward disabled persons are obviously influenced by their opinions and feelings. The core of the problem may well lie in the concept of attitude. The following definition for attitude, "a learned and relatively enduring favorable or unfavorable disposition about an object or situation which leads a person toward some preferred response" (Rokeach, 1966, p. 132) was applied in this study. The implication is that if society's disposition toward the disabled can be made more favorable, then society's preferred responses will change.

This study was designed to observe a change technique which was expected to alter one's disposition (attitude) toward the disabled. Since the core problems of "discomfort" (Lewin, 1948; Siller, 1967) and "strain in social interaction" (Siller, 1967) create difficulties for the nondisabled during interpersonal relations with the disabled, a social psychological approach toward the development of a change strategy was taken in developing a theoretical base for this research.

The investigator's intention was to observe the effects of a change strategy combining knowledge of interpersonal relationships within an attitude change framework. The writings of Lewin, Deutsch, Kelley and Thibaut, Siller, and Johnson and Johnson provided the background for the selected theoretical constructs.

Kurt Lewin (1948) pioneered in the field of attitude change toward the physically disabled by contributing concepts from his field theory and the psychology of the individual. The subsequent discussion will present this conceptualization.

First, Lewin (1935) dealt with the individual's state of tension as it related to his or her psychological need and environment. He stated that a system in a state of tension exists within a person whenever a psychological need or an intention exists. Tension is released when the need or intention is fulfilled. Tension has certain conceptual properties: (1) It is the state of a region that tries to change itself in such a way that it becomes equal to the state of the surrounding regions; and (2) it involves forces at the boundary of the region in tension.

Furthermore, Lewin (1948) referred to forces within the psychological environment (the field) which may affect the individual's states of tension and attitudes. Lewin's use of the terms, "positive valence" and "negative valence" refer to areas of the environment to which forces may be applied. A "positive valence is conceived of as an attraction operating within a given region of the field. The valent region has all forces (motives) pointing toward it. The negative valence represents an aversion operating within a given region of the field. The forces point away from a region of negative valence.

The construct "force" characterizes the direction and strength of the tendency to change at a given point of the life space. Change may occur either by a locomotion (a change in position) of the person in his psychological environment, or by a change in the structure of his perceived environment.

In particular, a tension may be related to a positive valence for activity regions in the psychological environment that are perceived as

tension reducing and a negative valence for the region in which the behaving self is at the moment. The existence of a region of positive valence (a goal region), however, depends, only on whether or not there are perceived possibilities for reducing the tension.

As stated earlier by Lewin (1938):

"...individual knows a goal region exists, but does not know its location...direction toward the goal is dominant and the leaving of the present region is only a means to that end" (p. 62).

The end relates to reducing the discomfort of tension.

When Lewin dealt with the dynamics of attitude change, he referred to his field theory for explications.

"...two kinds of forces acting on the individual's own wishes and hopes, and those socially 'induced' or applied to the individual from without by some other agent"
(Lewin, 1948, p. 155).

Labels of "driving" and "restraining" were attached to the two types of forces. Driving and restraining forces exert pressure in opposing directions on behavior, attitudes, and opinions. Driving forces push toward change while restraining forces form barriers to change resulting in discomfort.

The researcher's task, in the Lewinian model, is to identify the forces driving toward and restraining change, since a reduction in restraining forces, or an increase in driving forces, can lead to

attitude change, a process which occurs in three stages: "unfreezing," "moving," and "refreezing" (Evans, 1976; Lewin, 1939).

Attitude modification thus necessitates an unbalancing or unfreezing of the present attitude by either reducing a restraining force or increasing a driving force. An increase in driving forces can overcome restraining barriers but a secondary effect of this manipulation is an increase in tension in the system. Lewin's (1935) theory of motivation postulates that a state of tension within an individual motivates movement toward accomplishing a desired goal. Also, from Lewin's (1935) field theory it may be deduced that it is a drive for goal accomplishment that motivates certain types of behavior; including those which diminish tension.

The foregoing notions motivated Deutsch's (1949) conceptualization of how the tension systems of different persons may be interrelated and thereby develop into one of three conceivable goal structures within a social situation. He described the three types of goal structures as; cooperative, competitive, and individualistic.

A cooperative social situation is one in which the goals of the separate individuals are so linked together that there is a positive correlation among their goal attainments. Under cooperative conditions, an individual can obtain his goal if and only if the other person with whom he is linked can obtain his goal (Deutsch, 1962).

A competitive social situation is one in which the goals of the separate persons are so linked that there is a negative correlation among their goal attainments. An individual who is competitively

linked with another can attain his goal only to the extent that the other individual cannot reach goal attainment (Deutsch, 1962).

In an individualistic situation there is no correlation among the goal attainments of the participants (Deutsch, 1962). Under competitive circumstances, an individual may obtain his goal only if others with whom he is linked cannot obtain their goals (Deutsch, 1949b). Under individualistic conditions, the individual ignores the goal achievement efforts of other participants in the social situation (Deutsch, 1962; Johnson, 1973).

Deutsch's (1949) cooperation theory analyzes the psychological consequences of the cooperative relationship in three ways:

(1) substitutability - the actions of members in a cooperative relationship are interchangeable; if one member has engaged in a certain behavior, there is no need for others within the relationship to repeat the behavior; (2) positive cathexis - if the action of one member in a cooperative relationship move the individuals towards their goal, his actions (and he as a person) will be favorably evaluated by the others; and (3) inducibility - if actions of a person in a cooperative relationship move the others toward their goal, the others will be receptive to his attempts to induce them to engage in behavior which will facilitate his actions (Deutsch, 1962; Johnson, 1973).

Deutsch's analysis of consequences strongly suggests that cooperative social situations encourage positive interpersonal relationships, a postulate which was incorporated in this study. It also indicates interdependence between persons in locomotion toward their respective

goals (Kelley, 1979).

Previously, Lewin (1948) emphasized that "The essence of a group is not the similarity or dissimilarity of its members, but their interdependence" (p. 84). He thought of interdependence as a way of reconciling individual needs. From this notion, two of his students, Thibaut and Kelley (1959) conceptualized interdependence in social interaction: "the essence of any interpersonal relationship is interaction" (p. 10). They explained social interaction in terms of its "outcomes" in the nature of rewards received and the costs incurred by each participant in an interaction (p. 13). "How social interaction is influenced by the interdependence of the participants" (Deutsch & Krauss, 1965, p. 124) was noted as Thibaut's and Kelley's major contribution to interdependence theory.

Representing social interaction by a matrix, Thibaut and Kelley (1961) have indicated that each person in the relationship has the possibility of affecting the other's reward-cost positions and of influencing or controlling him. So we speak of their being interdependent.

The specificity of types of controls (fate control and behavior control) which one has over another's outcome, has given further insight into how interaction may be influenced (Thibaut & Kelley, 1961). Patterns of "promotive" (cooperative) or "contrient" (competitive-like) (as termed by Deutsch, 1949) interdependence may be arranged as a result of power strategies which the group members may decide to use during periods of interaction. A person will use his power to affect the fate

or behavior of another person only with regard to the effects of this use upon his own outcomes.

The patterns of interdependency which characterize relationships also affect the kinds of agreements group members must achieve if their relationship is to be mutually rewarding.

As previously discussed, Siller (1967) had identified "strain in social interaction" as a core factor of discomfort involved in interpersonal relations between the disabled and the nondisabled. Incorporated within the Lewinian attitude change framework, "strain in social interaction" can be described as a force inhibiting the formation of positive attitudes on the part of nondisabled persons. Reduction in this force should lead to an unfreezing of any currently held negative attitudes, with a consequent movement of these attitudes in a positive direction.

Furthermore, Lewin's conceptualization provides a basis for consideration of interdependence as a positive factor in social interaction. Lewin (1938) postulated "the change of the difference in tension between any two systems would depend on the time interval and the degree of interdependence of the systems. With increased time, one would expect differences in tension between interdependent systems to decrease" (p. 40).

Associating this viewpoint with the attitude change process, Lewin (1948) was led to believe that interdependence could serve to remove barriers to change by acting upon negative attitudes during the "unfreezing" stage and "moving" them on to a more positive direction.

Theorizing further, Lewin (1948) believed group membership and consequent group commitment would create a degree of mutuality which would act in time, upon the individual to change behavior in the direction of the group's goal, thereby reducing the level of conflict and tension. In other words, the group to which the person belongs acquires a "positive valence" and exerts forces to keep the individual's behavior and attitudes in conformity with the goal to be obtained.

Theoretical implications of the work by Deutsch, Thibaut, and Kelley also support the assumption that strain and tension may be reduced through coordinated action toward the achievement of goals. So in line with the findings of earlier research, Johnson and Johnson theorized about the process (Johnson, Johnson, & Maruyama, 1983).

Johnson et al (1983) found the research conducted between 1930 and 1970 did little to identify the process through which cooperative experiences promoted interpersonal attraction given the considerable indications that cooperative interdependence played a key role in promoting positive relationships among "heterogeneous" individuals. In view of this circumstance, Johnson and Johnson organized a general theory about the process through which disabled and nondisabled individuals (heterogeneous) make social judgments during periods of interaction. It is described as follows:

1. There are preinteraction negative attitude existing...
between handicapped and nonhandicapped students.
2. Depending on whether interaction takes place within a
context of positive, negative, or no goal interdependence.

a process of acceptance or rejection takes place.

A cooperative, compared with a competitive or individualistic, context promotes greater interpersonal attractions among heterogeneous individuals.

3. The process of acceptance results from interaction within a context of positive goal interdependence, which leads to (a) promotive interaction and feelings of psychological acceptance and safety; (b) accurate perspective-taking; (c) differentiated, dynamic, realistic views of collaborators and oneself; (d) feelings of success; (e) positive cathexis toward collaborators and oneself; and (f) expectations of rewarding future interaction with collaborators, regardless of their heterogeneity.
4. The process of rejection results from interaction with a context of negative or no goal interdependence. Negative goal interdependence promotes oppositional interaction, and no goal interdependence results in no interaction with peers (Johnson et al., 1983, p. 8).

Faced with the need to validate this theoretical model which links social interdependence with interpersonal attraction among heterogeneous (handicapped and nonhandicapped) peers, Johnson et al (1983) conducted a meta-analysis of relevant research. The studies compared the relative effects of cooperative, competitive, and individualistic situations on interpersonal attraction between handicapped and nonhandicapped

individuals as well as on other diverse groups.

They employed three methods: voting method, effect-size method, and z-score method to analyze 98 studies conducted between 1944 and 1982 that yielded 251 findings.

In the voting method each study was read and all findings considered by the original authors to be significantly positive, significantly negative, or non-significant were counted. One of these categories was declared as the modal category representing the best estimate of the direction of the true relation between independent and dependent variables.

The effect-size method provided the difference between the means of pairs of treatment conditions, yielding a standardized mean difference. The effect-size for each finding of a study was treated as an observation and examined statistically in relation to characteristics of the study.

The z-score method involved finding the appropriate probability level for the results of each study. This probability described the likelihood that the results of the studies were generated by chance.

The meta-analysis results validated the basic proposition of the social judgment process model indicating that cooperative experiences promote a stronger process of acceptance than do competitive and individualistic experiences (Johnson et al, 1983, p. 38).

In summary, Siller (1967) has provided some answers to the question of the origin of negative reactions during periods of interaction between nondisabled and disabled persons. They were consequential to

Lewin's (1948) thoughts on dynamics of change. The empirical findings of Deutsch (1949, 1962), Thibaut and Kelley (1959, 1978), and Johnson and Johnson (1972, 1982, 1983) have imparted information on structures of successful interpersonal relationships.

Their concepts furnished the eclectic basis for the goal interdependent experiences in this study. The mediating variables of positive goal interdependence (cooperation) and discomfort reduction during interaction were incorporated and operationalized in this study. Structured interviews and cooperative game play were specified as independent variables associated with the mediating variables.

There is, in fact, some interrelationship between cooperative game play and the structured interview insofar as goal interdependence is concerned. Both activities were expected to provide participants with an opportunity to form differentiated and dynamic social judgment among themselves which may lead to interpersonal attraction or rejection. It was further expected that the cue to the end results would be in how the interaction was structured. There are ways of structuring interaction in game play and the interview so that positive goal interdependence (cooperative) results or so that negative (competitive) or no goal interdependency (individualistic) could result between the disabled and the nondisabled (Johnson, et al, 1983). In defining goal interdependence as "mutual attitudinal influence" (Kelley, 1979, p. 13) to gain a desired end, it was particularly appropriate for me to specify certain aspects of this definition as exemplified in both modes of interaction.

The interview sessions were expected to lead to positive goal interdependence, given that the following conditions prevailed:

1. Presentation of the visually impaired in a non-stereotypic manner.
2. Perception of equal status by participants during contact.
3. Reduction of interpersonal tension and strain.
4. Promotion of interaction on a personal level (Duetsch, 1949; Donaldson, 1980; Evans, 1976; Johnson, et al, 1983; Johnson and Johnson, 1982; Lewin, 1948; Siller, 1967; Thibaut and Kelley, 1959).

The game play was structured to meet the same conditions as outlined for the structured interview. However, one key distinction between the modes of interaction was that goal interdependence in the game was so structured that goal attainment would be achieved only through an appropriate "behavior set" (Thibaut & Kelley, 1959, p. 11) directed toward the immediate goal. Thus, it was anticipated that each player would seek a "set" that would be mutually beneficial. There would be "mutual attitudinal influence" (Kelley, 1979, p. 13) which would constitute cooperation. The amount of cooperation that would be involved in the interview sessions was equivocal.

Nonetheless, the critical relationship to hold constant is that social interaction between disabled and nondisabled persons which involves the condition of positive goal interdependence increases the probability of being more effective in changing attitudes positively than social interaction in the absence of positive goal interdependence (Johnson, et al, 1983).

Definition of Terms

The following definitions are defined below in order to make explicit their meanings as used in this study:

1. Attitude - "a learned and relatively enduring favorable or unfavorable disposition about an object or situation which leads a person toward some preferred response" (Rokeach, 1966, p. 132).
2. Interdependence - dependence upon each other.
3. Goal interdependence - "mutual attitudinal influence" to gain desired end (Kelley, 1979, p. 13).
4. Acceptance - favorable reception of each other during social interaction.
5. Discomfort reduction - release of tension or strain when in contact with (blind or visually impaired) handicapped persons.
6. Social interaction - human action upon or influence of each other.
7. Disabled persons - persons who are blind or visually impaired.
8. Game play - a cooperative activity engaged in according to certain rules.
9. Structured interview - a face to face meeting of two persons to discuss a set of questions to be covered within a fixed sequence.
10. Interaction session - a 20 minute period of time in which social interaction occurred between the sighted subjects

in the experimental groups and blind or visually impaired confederates.

Assumptions

The following primary assumptions formed the basis of this research:

1. Prospective teachers hold attitudes toward disabled persons.
2. Prospective teachers experience anxiety during initial periods of social interaction with visually impaired persons.
3. Anxieties are effected by the amount and types of contacts the prospective teachers have had with visually impaired persons.
4. Attitudes of prospective teachers can be measured.
5. These attitudes may be open to change through social interactions involving goal interdependent experiences.

The following secondary assumptions were derived from the preceding theoretical rationale:

1. The attitude under investigation is maintained within a state of "equilibrium" and is characterized by the effects of "field forces" acting upon it.
2. Attitude change is a manifestation of decrease in restraining forces during social interaction as result of goal interdependence.
3. Attitude change will occur only as decreased discomfort during social interaction and mutual self-actualization

toward goal attainment occur.

4. Since positive attitudes toward visually impaired are contingent upon the presence of a positive force in social interaction, they are within the scope of positive goal interdependence between the visually impaired and prospective teachers.
5. The magnitude and direction of attitudinal change is a function of perceived interdependence.

Limitations

Limitations which should be considered in evaluating the results of this study include:

1. Sample: The sample was limited to prospective teachers in one institution.
2. Setting: The goal interdependent experiences incorporated in this study were provided in one state residential school for the physically disabled. The specific characteristics of this setting would be exerted as an independent influence on the outcome of this research.
3. Long Term Treatment Effects: Long term treatment effects are not measured the first year. However, a post evaluation was made three weeks after the treatments were administered. Another evaluation is planned after a one year interval.

Research Hypotheses

In light of the theoretical rationale presented, the following

research hypotheses are offered:

1. Prospective teachers will be more uncomfortable during the pre-contact period of initial cooperative game play and structured interviews with visually impaired persons than during the post-contact period of initial cooperative game play and structured interviews.
2. Positive goal interdependent experiences will promote acceptance of visually impaired persons by prospective teachers.
3. Reduction of discomfort for prospective teachers during their social interactions with visually impaired persons is related to effecting positive attitudinal shifts.

Statistical hypotheses are presented in Chapter III. These hypotheses are operationally defined in relation to specific outcome measurements.

CHAPTER II

REVIEW OF THE LITERATURE

The literature was reviewed to ascertain the effects of increased contact between the disabled and the nondisabled; to identify techniques employed for discomfort reduction in social interaction and to determine the effects of goal interdependence during social interaction.

Effects of Increased Contact

The earliest attempt at the observation of the effects of increased contact was made by Granofsky (1956). Thinking social contact would likely change the attitudes of 104 nondisabled women toward disabled male veterans, he arranged for members of a women's auxiliary to be exposed to eight hours of interpersonal contact with disabled males in a Veteran's hospital.

Granofsky utilized a pre-posttest design and administered self-constructed projective tests, the Pictures Test, and a sentence completion test concerning attitudes. Initial attitudes were found to be negative and no significant change was produced by the experimental treatments.

Cole (1971) also explored the effect of increased contact upon the attitudes of sighted persons toward the blind. The contact variable

was manipulated by exposing six groups of three male and three female college students to one of three blind male accomplices during six weekly fifty-minute discussion groups on child psychology.

There were 36 experimental subjects and a control-no contact group in this pre-posttest designed study. There was no mention of the specific instrument used to assess attitudes. However a behavioral check was kept, using Bales Interaction Process Analysis to note changes in verbally-expressed attitudes. The California Personality Inventory was administered as a means of correlating personality traits with any positive and negative shifts in attitude.

Comparison of the experimental and control subjects' scores revealed few significant results between pre and posttest measurements. A further analysis of those subjects who reported having had prior contact with blind persons revealed a significant positive change in attitude. These results were attributed to Cole's programmed contact manipulation because the CPI correlations of the subjects who evidenced a shift revealed no significant relation between personality type and attitude change.

Cole (1971) concluded that "persons who have contacted blind persons before tend not to display any great shifts in their attitudes as a function of contact unless the contact is in some way unusual or fits into existing attitudinal pattern" (p. 6893-B).

Dealing with 62 newly graduated rehabilitation counselors, Cobun (1972) studied the effects of their increased contact with disabled clients. They were enrolled in a six week Counselor Induction

Training Program at the Woodrow Wilson Vocational Rehabilitation Center in Fishersville, Virginia. This program emphasized three types of training: 1. social interaction with disabled clients, 2. classroom presentations, and 3. laboratory experiences.

Using a pre- post-test design, Cobun compared scores on the 20 dimensions of the Disability Factors Scales (DFS- A, B, and C, of Siller's) before and after training. The independent variable consisted of the actual induction training program.

Significant changes occurred for one of the seven dimensions of attitude toward blindness, and for five of the six dimensions of attitude toward cosmetic conditions. These changes were in a negative direction.

According to Cobun (1972), the counselors became afraid of saying or doing the wrong thing when in contact with a disabled client and developed an overall desire for segregation from the disabled, specifically those with blindness or cosmetic conditions.

Four pilot projects were undertaken, one which dealt with the introduction of handicapped persons into Junior Companies in Nashville, Tennessee as a means of developing and modifying attitudes on the part of program directors and co-workers. Sixteen participants, five from the Tennessee School for the Blind, seven from the State Correctional Center, and four from Outlook Nashville, Inc. (Two of whom were in wheelchairs) had an opportunity to work with nonhandicapped Junior Achievers who simultaneously received an opportunity to observe the contributions of handicapped youth to the business program. Wallston,

Blanton, Robinson, and Polichink (1972) felt that this increased contact and interaction would help the nonhandicapped to form a more realistic attitude toward the handicapped.

Four students majoring in special education at George Peabody served to coordinate data collection and to counsel advisors. Recorded interviews with achievers and advisors served to determine the attitude of the persons involved in Junior Achievement. Observations of the interaction between the handicapped and the nonhandicapped in "on task" and "off task" settings also served as data sources.

Wallston (et al (1972) found that the achievers showed less positive attitudes toward persons with disabilities on the Spatial Paralogic Attitude Inventory in posttesting the Junior Achievement experiences. In many cases, there was no change in attitude. However, where participants chose not to volunteer interaction with the handicapped, attitudes became more negative.

Rice (1980) assessed whether increased interaction with the physically handicapped increased positive attitudes toward them. His investigation of possible differences in the attitudes of Populations A and B centered around seven hypotheses. The following variables were involved: in-class experiences, out-of-class experience, general college experiences, and overall attitudes toward the physically handicapped students on two college campuses. Six hundred and thirty-six able-bodied college students, 314 from a college where there were many physically handicapped students enrolled, labeled Population A, and 322 students from a college where fewer physically handicapped

students were enrolled, labeled Population B, comprised the sample which completed a 57-item questionnaire.

The results suggested that there was a difference in attitudes between the two populations. However, with the exception of attitudes regarding general college experience, Population A was significantly less positive in their attitudes toward the physically handicapped than was Population B for each of the hypotheses. It was implied that the competitive academic setting was an influencing factor in the results.

Although Yuker et al (1966) had found that the amount and type of contact with the disabled are positively related, the results of the cited studies were inconsistent. The discrepancies in these results and in those of Yuker et al (1966) may be due in part to inadequate control of the type of contact. They (1966) modified the increased contact theory by reporting that only equal-status social and professional contacts will increase positive attitudes and diminish prejudice toward the disabled.

Anthony (1969) found positive changes in attitudes following exposure of new camp counselors to nine weeks of contact with disabled children. On the other hand, some researchers utilized increased contact which resulted in positive attitudinal shifts. Following through on Yuker's notion about the type of contact with the disabled, Anthony (1969) proceeded to provide close, personal, and social contact involving equal status between the disabled and the nondisabled. Forty-two nondisabled summer camp staff members (16 of whom had previous experience) interacted with disabled staff members and children

throughout the summer session.

Manipulations involved practical experiences in the methods of integrating disabled and nondisabled children at the camp. Anthony perceived contact between the disabled and the nondisabled camp staff members as being of equal-status proportions since the subjects were approximately equal in educational and vocational status.

Using the Attitude Toward Disabled Persons Scale to measure the dependent variable, posttesting results showed a significant increase in positive attitudes of the new staff members while the experienced staff did not evidence such a change.

Later, Rapier, Adelson, Carey, and Croke (1972) pre and post assessed the attitudes of nonhandicapped elementary school children after a year of integrated school experiences in the classroom, on the playground, in the auditorium with 25 orthopedically handicapped children.

A group administered rating scale loosely based on the semantic differential technique was developed by the authors to determine attitudinal shifts about some needs and characteristics of the orthopedically handicapped children. The scale was administered to children in grades 3, 4, and 5 by the classroom teachers in June, 1969. It was readministered during May, 1970 to the same children who were then in grades 4, 5, and 6.

Using the chi square test to analyze the item responses, Rapier et al found significance at the $p < .05$ level that nonhandicapped children perceived the handicapped children less weak and in need of less

attention as originally thought. Before integration, 34 percent of the nonhandicapped children thought orthopedically handicapped children needed lots of help, but after integration only 20 percent continued to maintain that attitude. Contact of an equal status nature was based on child-child interactions in this study. It appears that some factor included in the above strategies were not a part of the studies cited earlier. Efforts to control the type of contact between the nondisabled and the disabled appeared in only two of the seven studies reviewed. The factor of equal status between the disabled and the nondisabled emerged as a type of contact situation that may effectuate positive attitudinal shifts.

One reason for the failures among the studies reviewed was the tendency to ignore the structure of contact or interaction between disabled and nondisabled persons. Researchers assumed increased contact per se as the major factor to help form positive attitudes toward the disabled. Yet, in the successful studies it appears as though the positive attitudinal shifts were associated with equal status relationships between the disabled and the nondisabled.

Techniques for Discomfort Reduction

Other studies have found positive changes in attitudes following the use of certain techniques for discomfort reduction during interactions with the disabled. For example, Lazar, Gensley, and Orpet (1971) invited physically disabled adults to a special summer workshop held on a college campus on a weekly basis to lecture to gifted children about their work. Use of the technique, "sanctioned staring"

at the guest lecturers, helped to reduce discomfort initially experienced by the children. Although the medium of "sanctioned staring" was not specifically defined in the methodology of the study, staring was inobtrusively permitted as a function of the presentation of the disabled persons to speak before the group.

Comments one girl made, "When I heard deaf people were coming, I was scared, but I am not any more. They are real people" (Lazar et al, 1971, p. 601), were indicative of reduced anxiety experienced by the children after they had seen the disabled lecturers.

Utilizing the Attitudes Toward Disabled Persons administered form 0 of the scale before and after a four-week instructional program dealing with disability. The program was administered by the students' teacher to 23 subjects who comprised the experimental group. The control group (N = 21) and their teacher had no discussions on the handicapped or interactions with them.

The independent variable, manipulation, consisted of discussions of various disabilities and exposure to persons with a variety of disabilities. The experiences were structured within a classroom learning framework.

The results of this research showed a significant gain between manipulation and pretesting, vs manipulation, at posttesting. The control group evidenced a decrease in ATDP scoring.

It appears that "sanctioned staring" incorporated with the special instructional program used by the experimental group had some influence in changing the attitudes of these subjects toward physically disabled

individuals.

Unlike Lazar et al (1971), Langer, Fiske, Taylor, and Chanowitz (1976) using the same technique, defined the specific medium for employing "sanctioned staring" in their studies. In three experiments, manipulations involved staring at photographs as well as staring through a one way mirror.

They conducted three experiments in order to assess the validity of the novel-stimulus hypothesis as an explanation for why people who are physically different (i.e., novel) are avoided. The hypothesis states that avoidance is mediated by conflict over a desire to stare at novel stimuli and a desire to held to a norm against staring at another person.

In the first two experiments, the subjects viewed photographs of handicapped or pregnant and physically normal people under conditions where staring was sanctioned or not. The subject population, comprised of 15 males and 15 females, were observed for the amount of time the subject spent staring at each of the photos exhibited in the Dining Commons of the Graduate Center of the City University of New York. Three stop-watches encased in a small box were employed so that the total looking time per picture could be obtained. It was found that staring increased with novelty when staring was unobserved (sanctioned); however, the reverse was obtained when an observer was present.

In their third experiment, thirty-six females and thirty-six male Harvard summer school students interacted with a female confederate who was either pregnant, crippled, or physically normal. Prior to this

encounter, half of the subjects in each of the three groups were permitted to observe the partner through a one way mirror. The remaining subjects were not given this prior exposure. After this period of time, all subjects were to engage in conversation with this person. This conversation was structured around the partner's biographical data and information about interest in hobbies and sports which were recorded on the subject's information sheet.

The measure of avoidance used was the distance subjects chose to sit from the confederate. The major dependent measure of discomfort was interpersonal distance. Subjects distanced themselves most from the crippled confederate, and least from the physically normal confederate. Conversely, the mean distance for the crippled, pregnant, and normal confederate were virtually the same when the subjects were permitted to view the confederate prior to interacting with her.

The interpersonal attraction questionnaire was administered to determine whether avoidance was function of the conflict over whether or not to stare or of negative attitudes towards the stigmatized. The confederate's condition did not affect reported judgments of attraction and liking (p. 10) although it did affect overt behavior toward the confederate.

The results of the Langer et al study (1976) were consistent with the hypothesis that having prior exposure to a physically different person before meeting him/her eliminates much of the discomfort usually manifested in interactions with such persons.

A different technique employed by Evans (1976), was described as the use of disabled persons to reduce the restraining force of discomfort on the part of nondisabled individuals by discussing their feelings about their disability and the curiosity of others and also by providing some guidelines for interacting during interview sessions.

Similar to Langer et al (1976), he presented a controlled structured experience with the disabled. Evans attempted to structure interpersonal situations between the disabled and the nondisabled through the use of interviews. The content of the interaction between each subject and the "confederate" with whom an interview was to be held was controlled by having the participants adhere to a series of topics, which included hometown, major in college, family, and the like.

Evans utilized 60 university general psychology students divided into 20 experimental and 40 control subjects (ten males and ten females in each of three groups). Employing a pre-post test design, the experimental manipulations required the participants to take part in three sessions. The initial sessions consisted of group pre-testing on the Attitude Toward Disabled Persons scale, the Disability Factors Scale-Blindness (DFS-B) (Siller et al, 1967), an amount of contact scale, and the semantic differential rating for type of contact. During the second session, the experimental session, the subjects were asked to complete the State Anxiety Inventory (Spielberger and Gorsuch, 1966). In the third session of the study, the subjects were administered the DFS-B, ATDP, and the Trait Anxiety Scales.

The experimental manipulation consisted of three statements made by

the disabled confederate. The first statement invited questions about blindness, with an explanation that the confederate did not mind such inquiries. The second statement dealt with certain social advantages of being blind. The third dealt with the blind confederate's acceptance of words such as "look", "watch," or "see," as part of everyday language and not as offensive.

Subjects in group I participated in the interview session. Interactions between participants and confederates in groups II and III remained factual and did not deal with the topic of disability at all.

The results of the study supported the hypothesis that the structuring of social interactions by a disabled person will lead to the formation of positive attitudes on the part of the nondisabled social participants.

Evans (1976) as well as others found that the contact variable alone will not significantly affect attitudes.

The reviewed studies confirmed the need for further consideration of techniques to alleviate tension and strain between disabled and nondisabled social participants.

Effects of Goal Interdependence in Social Interaction

Several studies validate the consideration of goal interdependence as a "positive valence" for the reduction of tension in social interactions. Research suggests repeatedly that cooperative relationships are the most basic forms of goal interdependence among humans.

Wheeler and Ryan (1973) investigated the effects of a cooperative classroom environment on the attitudes of high-and-low-anxious types of

elementary school children who were engaged in certain social studies inquiry activities. With a pre-posttest design, they exposed cooperative and competitive groups to the content of a unit on "adaptation." Cooperative subjects were randomly assigned to subgroups to either five or six members a piece. Each subgroup "cooperatively" worked together to complete various inquiry-type activities in a workbook. Competitive subjects worked on the same inquiry workbooks, but individually, rather than in subgroups. The findings indicated that the group which worked within the cooperative interpersonal context developed more positive attitudes toward activities than those who worked in the competitive context. Although the focus of this study was on attitudes toward the curriculum, an implication can be drawn from the results to relate to conditions for the formation of attitudes toward individuals.

Ballard et al (1977) found that interdependence among group members may have increased their acceptance of each other. They experimentally manipulated thirty-seven mainstreamed educable mentally retarded (EMR) children in grades 3, 4, and 5 for the purpose of improving their social status among their nonretarded classmates. Each experimental EMR student worked in a small cooperative group with 4 to 6 nonretarded classmates on highly structured manipulative tasks using multimedia materials.

Treatment procedures within the groups were designed to maximize the extent of cooperative and constructive interchange among students. Planning and production of a slide show or a skit were the

responsibilities of experimental groups. Success of the project was based on the interdependence of the group members.

Children in the control classes participated in their usual classroom activities during the 11-week treatment period. The pre-posttest design of this study employed "acceptance" and "rejection" as dependent variables. Analysis of covariance on posttest sociometric scores given by the total class indicated that acceptance of experimental subjects was significantly higher than that of control subjects following treatment, $F(1, 30) = 5.7, p < .05$.

This study did not attempt to identify specific components of the treatment that may have resulted in improved acceptance of retarded children; it is possible that either the cooperative nature of the activity groups, or the use of a minimally academic task, or the high degree of structure, or the length of the treatment period produced the desired results.

Rynders, Johnson and Johnson, and Schmidt (1980) studied the effects of cooperative goal structuring on interpersonal interaction and attraction between nonhandicapped and Down Syndrome junior high school students who participated in eight weekly sessions on recreational bowling for one hour per week. The 12 severely handicapped students were able to understand the basic instructions given in the study and to communicate verbally. The eighteen nonhandicapped students were selected on the basis of having had little previous bowling experience and as being interested in learning how to increase their bowling experience. All individuals, handicapped and nonhandicapped combined,

were assigned randomly to three conditions of goal structuring - competitive, individualistic and cooperative. In the cooperative condition students were instructed each week to maximize their group bowling score to meet a set criterion. The competitive and individualistic groups tried to maximize their own scores relative to a set criterion.

The findings of the study indicated that the entire positive interaction network increased substantially. However, the students in the cooperative condition were more personally accepting of the Down Syndrome students than were students in the other two conditions.

Cooper, Johnson, Johnson, and Wilderson (1980), studied the effects of cooperative, competitive, and individualistic experiences on cross-ethnic, cross-sex, and cross-ability interpersonal attraction. They studied 60 seventh grade, lower-class and working-class students from an inner-city junior high school during their English, geography, and science classes. Experimental activities were conducted three hours a day for 15 instructional days. The subjects (1 male, 1 female, 1 black, 1 white, 1 low ability, 1 high ability) were randomly assigned to three experimental conditions. In the cooperative condition, they were instructed to work as a group to complete a group assignment. All members were to give their suggestions and ideas. The teacher would praise and reward the group as a whole. Those assigned to the competitive group were told to compete to be the best in the cluster. The teacher praised the students with the highest scores. The individualistic students were told to work on their own and to avoid

contact with others. Each was praised individually by the teacher. The results indicated when students who were initially prejudiced against one another were present in the same situation, cooperative experiences promoted more interpersonal attraction than did competitive or individualistic experiences.

Rogers, Miller, and Hennigan (1981), examined the influence of cooperative games on cross-racial social acceptance among male and female elementary school children. Following 10 weeks of observations of social interactions, Rogers et al (1981) noted that boys' playground activities force cross-racial interaction because of their interdependency nature, whereas those of the girls do not encourage cross-racial cooperation.

Observers (one black female, one white male, one oriental male) collected data on interactions two weeks before, during the intervention on days when the games were not in progress, and for 4 weeks after the intervention of cooperative game play among the girls for four days.

Comparisons between the observations collected two weeks prior to the intervention and those concurrent with it showed that games had an immediate and positive effect on the girls' cross-racial interactions.

The design of the study permitted only tentative conclusions about the effectiveness of the games as the lack of an alternative treatment control group in the study does not preclude the consideration of a Hawthorne effect in the treatment group. Also, the fact that the observers knew about the intervention may have produced expectancy effects.

Nevertheless, the study does give credence to the possibilities of structuring goal interdependence around non-academic activities. It also supports the findings of Aloia, Beaver, and Pettus (1978) who suggested that initial interaction between educable mentally retarded students and their non-retarded peers can be facilitated through cooperative game-play, "thereby increasing the opportunity for further social interaction and eventual social acceptance" (p. 578).

There is some behavioral evidence that the promotion of more positive relationships between handicapped and nonhandicapped persons as a result of structuring goal interdependence around classroom academic activities may be generalized to free-time situations (Johnson & Johnson, 1982, 1983). In one study they observed the nature of interaction between the 51 handicapped and the nonhandicapped fourth-grade students during daily 10 minutes of free time. It was noted that the students in the cooperative learning condition, compared with those in the competitive condition, sought out each other's company during free time and perceived more giving of cross-handicap help, indicating that they knew each other better and were friends.

The observation measure used was designed to provide an index of the proximity of a handicapped student to other students in the condition. To be classified as an interaction, the target student's peers had to be in a two-meter radius of the student, and the target student had to be in conversation or involved in the same activity with the other student.

Using a list, students were rotated as many times as possible

during the free-time period. The observer agreement was 93 percent as determined by the Harris and Lahey method.

The second study (Johnson & Johnson, 1983) was nearly a replication of the 1982 study in design and procedures. The independent variables consisted of three conditions: cooperative, competitive, and individualistic, compared with two conditions (cooperative and competitive) in the former study. The dependent variables were cross-handicap interaction during instruction, proximity during free-time, perspective-taking ability, and five attitude scales.

The instrumentation was different in this study, except the cooperative and individualistic learning scale which was also used in 1982.

The results of the study corroborate the previous research on the impact of cooperative learning experiences to promote interpersonal attraction among heterogeneous peers and to develop relationship strong enough for them to interact socially during free-time situations.

Generalizability of these results are related to the age of the students studied, the curriculum materials used, the length of the study, and specific application of the variables in this case.

Summary

The reviewed studies may be categorized as those reporting the effects of increased contact between the disabled and the nondisabled, techniques employed for discomfort reduction in social interaction and the effects of goal interdependence during social interaction.

In summary, the results of the cited studies reporting effects of

increased contact were inconsistent. Of the seven studies reviewed, two produced negative results, three found positive attitude change, while two effected no change at all.

Yuker (1966) found that the amount and type of contact with the disabled are positively related to attitudes. Considering Yuker's notion about the type of contact, Anthony (1960) and Rapier et al (1972) controlled for the type of contact between the disabled and the nondisabled on the basis of equal status. They effected positive results.

Studies reporting techniques for the reduction of discomfort employed these methods: (1) controlled structured experiences, (2) "sanctioned staring," (3) non-stereotypic presentations of the disabled and (4) goal interdependence.

The eight studies reviewed for the effects of structured goal interdependence in social interaction supports the use of this technique for discomfort reduction leading to the possible formation of positive attitudes toward the disabled. Four of the studies structured interactions around academically related activities while four involved non-academic interactions, all produced successful results.

Cross-interactions mainly involved persons with such handicapping conditions as mental retardation, high anxiety states, and low socioeconomic status. Only one study concerned cross-interaction with the blind. No controlled study was found pertaining to prospective teachers in cross-interaction experiences with the blind or the visually impaired handicapped individuals.

The present study extends the research indicating the effects of structured goal interdependence on the attitudes of nondisabled persons toward persons with physical disabilities.

CHAPTER III

METHODOLOGY

Population for Study

The population consisted of all undergraduate education majors in the School of Education at Hampton Institute. They were regular education majors, (elementary and secondary levels, physical education) and special education majors.

A list of enrolled students was secured from the School of Education records. Class levels of the students involved were junior and senior.

Demographic data were secured from the files as well as from a distributed questionnaire. Of the 45 education majors involved in the study, 8 were males and 37 were females. There were 26 juniors and 19 seniors. The students' mean chronological age was 20.6 years and ranged from 19 years to 29 years. The group consisted of predominantly non-white students. Data were not available on the specific socioeconomic status of the study population.

Selection of the Sample

A letter of consent was sent to the students requesting their participation in this research (See Appendix A). They were informed that they were being asked to participate in order to improve the teacher education curriculum at Hampton Institute. They were not

informed that the specific area of research was based on attitude change toward disabled persons.

A random sample of consenters for participation was drawn using a random number table (Kerlinger, 1973). The sample was comprised of persons who had experienced a variety of amounts and types of previous contacts with physically disabled persons. Given these conditions, they were randomly assigned to experimental and control groups on the basis of the relationship (above or below) of their individual score to the group mean score on the State-Trait Anxiety Inventory (STAI) (Spielberger, Gorsuch, and Lushene, 1970) which was administered during the pretest session. This action was taken to equalize and control groups for variances of amounts and types of contacts impacting upon anxiety levels as result of previous experiences. Three groups of 15 students each participated.

The 45 students were assured that the information collected would be used for research purposes only and that they would be expected to remain with the study throughout its term. They were also assured of the maintenancy of anonymity. (See consent form Appendix A).

Design

This experimental study followed the format of the Pretest-Posttest Control Group design. The equivalent groups were achieved by randomization. Pretest and posttest measures were administered to all groups. Two experimental treatments were given and a control group was maintained throughout the study.

The design is delineated as follows:

R	O	X	O
R	O	X	O
R	O		O

Description of Treatments

After the pretesting session, 45 subjects were contacted to meet in the second session. During this session, the need for improvement in teacher education curriculum was discussed as the basis for the research and arrangements were made for the subsequent sessions of the study.

Three treatment groups of 15 each were designated: Groups I and II, experimental groups and Group III, control group.

Experimental Group I (15) played the electronic game, "Simon Says" as partners with visually impaired persons for 20 minutes during four sessions. Simon makes an ever-increasing sequence of flashing lights and sounds which have to be repeated by the players within a certain time period. If a player fails to repeat a sequence exactly or if more than 5 seconds are required to repeat a signal, Simon responds with a "RAZZ" sound to indicate the player has lost and the particular sequence of signal is ended. When players repeat the number of sequences for skill levels 1, 2, 3, or 4, Simon will salute you with six short signals to indicate that the player has won over him. This made it possible for players to team up against Simon.

A dyad of a sighted subject and a visually impaired confederate collaborated to beat Simon and another dyad of the same composition. This arrangement resulted in the formation of a goal structured context of cooperation with intergroup competition. Intergroup competition came

into play when two dyads attempted to reach the correct repetition of 31 signals first (level 4). Scoring was recorded on the basis of the number of times each dyad beat Simon as well as the other team. (See Appendix B).

Experimental Group II (15) was involved in four 20 minute structured interview sessions with visually impaired persons. Each subject was interviewed in a one-to-one correspondence by a visually impaired person who presented himself/herself in a non-stereotypic manner. In other words, the interviewer showed no averseness to discuss his/her feelings regarding visual impairment and openly spoke about the curiosities and embarrassment of others pertaining to this disability.

The structure of the experimental manipulation is described as follows. After introductions of the interview participants, a discussion was initiated with such questions as:

1. What happened to you over the weekend? or What happened to you yesterday? Would you like to tell me about it?
2. Where are you from?

After these questions were answered, the following statements were injected periodically within the context of the interaction which occurred in response to the subsequent questions of the interview:

1. "By the way, feel free to ask me anything you like about my visual impairment. A lot of people are curious because they have never known a blind or a visually impaired person. Often they are afraid they'll hurt my feelings or something. I really don't mind talking about my impairment.

2. "Sometimes my impairment can be sort of an inconvenience. On the other hand, I think because of it, I have met some very nice, interesting people that I wouldn't have met otherwise."
3. "A funny thing about a lot of people is they avoid using words like, "Look," or "Watch," or "See," around me. Or sometimes if they say something like "Did you see that show on TV" or "See you later," they get embarrassed that they said the wrong thing. That doesn't bother me."

The interviews were structured around these questions which were covered in the four sessions:

1. What is your family like?
2. Do you miss them while you are in school?
3. Whom do you miss most of all?
4. What was your elementary or high school like?
5. Describe your living quarters at Hampton Institute.
6. Are you and your roommate friends?
7. How would you like to be my friend?
8. Why would you like me to be your friend?
9. What kinds of activities do you engage in at Hampton Institute?
10. What are your classes like at Hampton Institute?
11. Do you have any plans for the summer? What are they?

As observed, these questions elicited a variety of responses from the experimental subjects which increased the interaction from session

to session.

The interviewers were instructed to ask only a portion of the questions during any particular session. So each subsequent interview session proceeded with the sequence of a portion of the unasked items. Other questions and comments were given to fill in the session time.

Control Group III (15) had no contact with the visually impaired students at this state residential school for the deaf and the blind.

The teachers at the state school monitored the experimental conditions. They were prepared for this activity during several meetings when detailed instructions were given on the procedures.

Posttesting occurred in two sessions. A week after the experimental manipulations, all groups of prospective teachers in the study were tested. Two weeks later, the experimental groups, a control group and the visually impaired students were tested. An explanation will be offered in the next section.

Instruments

Major test instruments employed in this study were the Attitude Toward Disabled Persons Scale (ATDP) (Yuker et al., 1966), (Forms A and B) and the State-Trait Anxiety Inventory (STAI) (Spielberger, Gorsuch, and Lushene, 1970), Forms X-1 and X-2. Other instruments used in conjunction with them were semantic differential scales, a 10 point amount of contact scale, Rotter's (1966) locus of control scale and the Crowne-Marlow (1960) Social Desirability Scale.

The ATDP, a 30-item Likert-type scale groups persons with all forms of disabilities into the single attitude target--physically disabled

(See Appendix C). The scale items include: (a) assessments of the amount of special treatment the participant feels that disabled persons require; and (b) evaluations of the degree to which the informant sees a disabled person's adjustment to be different from that of nondisabled people. An overall score is obtained, which is then interpreted along a continuum of accepting-rejecting attitudes toward the disabled. Scores may range from 0 to 180. Scores over 90 indicate acceptance while those below 90 are relative to rejection according to the authors.

Several estimates of reliability are reported. Split-half reliabilities range from .78 (N=72) to .84 (N=110). Coefficients of equivalence (Form A versus Form B) ranged from .41 (N=58) to .83 (N=57).

The ATDP scale has reasonably good content validity, and additional evidence is provided by correlation of ATDP scores with other scales. Significant correlations were found between ATDP and semantic differential scores (-.266), scores on a job satisfaction scale (+.463), and the Edwards Personal Preference Schedule (+.252). Nonsignificant correlations were found between ATDP and the following: Attitude Toward Intellectualism (Block and Yuker, unpublished), the F scale, the Machiavellianism Scale (Christie, 1956), and the Attitudes Toward Old People Scale (Block and Yuker, unpublished) (Buros, 1965).

The supporting data on ATDP is quite considerable and it seems adequate for research purposes. Thus, it has been the most widely used scale in the field of measurement of attitudes towards the disabled (Yuker et al., 1966).

The State-Trait Anxiety Inventory (STAI) (See Appendix C) is a

dual form, self-report scale which measures both both state and trait anxiety. Two scores are obtained with which a distinction can be made between the two conditions. The test is titled, "Self-Evaluation Questionnaire." Form X-1 measures state anxiety which is characterized by subjective feelings of apprehension and heightened arousal of the autonomic nervous system. STAI (Form X-1) consists of twenty statements that evaluate how respondents feel "right now," at a particular moment. STAI (Form X-2) has the same number of statements as X-1 but it assesses how people generally feel.

Both scales of the State-Trait Anxiety Inventory (STAI) employ four point ratings with total scores ranging from 20 to 80. A rating of 4 indicates the presence of a high level of anxiety for ten S-Anxiety items and eleven T-Anxiety items. A high rating indicates the absence of anxiety for the remaining ten S-Anxiety items and the nine T-Anxiety items.

The scoring weights for the anxiety-present items are 1, 2, 3, 4. The scoring weights for anxiety-absent items are reversed. Responses marked 1, 2, 3, 4 are scored 4, 3, 2, 1.

To obtain scores for the S-Anxiety and T-Anxiety scales, add the weighted scores for the twenty items of each scale. Always take into account that some items have reversed scores.

The trait scale has been found to be a reliable measure with a mean r from .73 to .86. The state scale has been shown to be reliable internally, but the authors (Spielberger et al., 1970) report some state fluctuation on test-retest basis (mean r ranged from .16 to .54).

Concurrent studies (mean r from .75 to .80) and construct validity studies have shown STAI to be a valid indicator of the construct validity. For example, the authors have administered SAI X-1 to undergraduate college students under four conditions. They were during a regular class period in a normal classroom setting (normal), immediately following a difficult IQ test (exam), immediately after relaxation training (relax), and after viewing a stressful film (movie). In general, the coefficients for each of the twenty items were higher in the more stressful conditions than in the relaxed conditions. Overall, the STAI has been shown to be one of the better tests of anxiety (Buros, 1972).

The semantic differential scale (Osgood, Suci, and Tannenbaum, 1957) assesses the dimensionality of the connotative meaning of concepts. Through the process of factor analysis, Osgood et al (1957) were able to identify three factors which lend variance to meaningful judgments of different concepts. One such factor is labeled evaluation.

The attitudinal component of meaning is evaluative in nature. To index attitude, one would use sets of scales which have high loadings on the evaluative factor. Six adjective pairs used in the study represent this factor and are judged (Osgood et al., 1957) valid as indicators of attitude. They are: a) good-bad, b) valuable-worthless, c) kind-cruel, d) pleasant-unpleasant, e) happy-sad, f) nice-awful. Six additional pairs of adjectives were included in the seven-step scales used in the pretest assessment. They were included to obscure the purpose of the measurement (See Appendix C). They were not scored in the overall

evaluative ratings to obtain the attitude score.

For purposes of scoring consistency, the unfavorable poles of the evaluative scale is assigned the score of "1" and the favorable poles are assigned to score "7." The sum of all the evaluative ratings indicate the attitude score. Scores of 5, 6, 7 are favorable ratings; scores of 1, 2, 3 are unfavorable ratings. A score of 4 indicates a neutral rating.

Test-retest reliability data on the semantic differential produced test-retest coefficients which ranged from .87 to .93, with a mean r (computed by z -transformation) of .91 (Osgood et al., 1957).

Its validity as a measure of attitude has been supported through comparisons with Thurstone and Guttman scales (Osgood et al., 1957, Buros, 1972). It seems reasonable to identify the evaluative factor of the semantic differential as an index of attitude.

In addition to the use of twelve semantic differential ratings to assess the types of previous contacts experienced by the subjects with disabled persons, seven other semantic differential rating scales (See Appendix C) were used to obtain evaluative feedback from the visually impaired students and the experimental subjects. The seven pairs of adjectives appeared as follows: 1) good-bad, 2) valuable-worthless, 3) negative-positive, 4) nice-swful, 5) unpleasant-pleasant, 6) sociable-unsociable, 7) happy-sad.

A ten point amount of contact scale (See Appendix A) was administered to control for possible group differences in the amount of previous contacts with disabled persons. The amount of contact scale

is a numerical rating scale in which the subject is told that 10 is high, 1 is low. The other numbers between represent intermediate values.

During the initial session with subjects, Rotter's (1966) locus of control scale, the Crowne-Mariowz (1960) Social Desirability Scale, and a series of semantic differential ratings (contacts with a person you like) (See Appendix C) were administered to serve as distractors to offset the effects of pretesting the attitudinal scale, ATPD.

Data Collection

A pretest-posttest format was used for data collection. Form A of the Attitude Toward Disabled Persons Scale (Yuker et al., 1966) was administered to the experimental and control groups simultaneously during group pretesting session. Form B of the same instrument was administered one week following the last experimental experiences with visually impaired persons. The rationale for collecting pretest-posttest measurements using this instrument was to measure the prospective teachers' attitudes toward the visually impaired and to assess any changes in attitudes as a result of the experimental manipulation. The derived data was useful in analyzing the interrelated effects of the two different goal interdependent experiences game play and the structured interview. Moreover, the ATPD is the most widely used scale in the field of measurement of attitudes toward the disabled which provides information relative to one's acceptance or rejection of persons with all forms of disabilities.

The State-Trait Anxiety Inventory (Spielberger et al., 1970) was

employed to equalize variances in anxiety states prior to group assignment and to provide an index of tension and discomfort reduction experienced by subjects in the experimental groups. As would be expected, data was obtained regarding the effects of the experimental treatments in reducing discomfort for the experimental group comparative to the control group.

Form X-1 was administered to all groups during the group posttesting session which occurred one week following the final experimental session.

The S-Anxiety Scale (STAI) was pre-posttested at the site of the experimental manipulations. Just before meeting the visually impaired students, the prospective teachers were asked to complete Form X-1 (See Appendix C). Immediately following the first interaction session, they were asked to complete Form X-1 again. The rationale for this data collection was to assess initial changes in tension and discomfort as result of the experimental manipulations.

The semantic differential rating scales (Osgood et al., 1957) were administered to all subjects immediately after the administration of Form A of the ATDP. The rationale for administering these measures was to offset the undesirable interaction of the pretest of ATDP and the experiment which is a source of external invalidity that is inherent in the research design (Pre-test- Posttest Control Group Design) and to evaluate the type of contact subjects have had with the physically disabled prior to this study.

The amount of contact scale (See Appendix C) accompanied the type

of contact scales. Jointly they served as controls for possible group differences in the amount and type of contacts. The literature reported these factors to have impact on the formation of positive attitudes (Donaldson, 1980; Evans, 1976; Siller, 1967; Yuker, et al., 1966).

Two other measures, Rotter's (1966) locus of control scale and the Crowne-Marlowe (1960) Social Desirability Scale were interspersed with the previously stated pretesting measures in order to reduce the saliency of the attitudinal scales (See Appendix C). These scales were not scored or considered in the experimental analysis.

Finally, seven semantic differential rating scales were administered to the experimental subjects, a control group and to the visually impaired students at two different posttesting sessions. The rating scales were administered as another posttest measure to assess the type of contact with the visually impaired as perceived by the experimental subjects. This data was collected two weeks after the administration of the previously stated posttest measures.

Upon completion of special arrangements (Brailleing the scales, training the teachers and visually impaired students in the procedures for rating the scales) the seven semantic differential rating scales were administered to the visually impaired students six weeks after the final experimental session. The collected data provided information on their perceptions of the experimental subjects, attitude during the interaction sessions.

The semantic differential is a fairly sensitive measure of attitude (Osgood et al., 1957). Therefore, the scales were administered to

control for the differences in score due to response variance inherent in ATDP, a summative rating scale, and to validate the effects of the experimental treatments on attitudes.

A questionnaire which was distributed during the sample selection process and file materials furnished data on demographics such as sex, age, local address, telephone number, class schedule, access to transportation, etc.

Statistical Hypotheses

This research was designed to test the independent and interrelated effects of cooperative game play and the structured interview on the anxiety levels and attitudes of prospective teachers at Hampton Institute toward disabled persons. In addition to the research hypotheses formulated in Chapter I, statistical hypotheses were stated on the basis of the foregoing theoretical rationale and the review of the literature.

These statistical hypotheses were designed to be tested against the null hypothesis on the expected differences between the treatment and control groups with regards to attitudes toward persons who have visual impairments:

1. There is no significant difference in state anxiety levels between the cooperative game play group and the structured interview group as measured by the posttest scores on the state section of the State-Trait Anxiety Inventory.
2. There is no significant difference in the change score on state anxiety levels for the cooperative game play group and

the structured interview group as measured by the state section of the State-Trait Anxiety Inventory.

3. There is no significant difference in trait anxiety levels between the cooperative game play group and the structured interview group and the control group as measured by the trait section of the State-Trait Anxiety Inventory.
4. There is no significant difference in attitudes between the cooperative game play group and the structured interview group and the control group as measured by the posttest scores on the Attitudes Toward Disabled Persons Scale.

Statistical Analysis

Descriptive statistics were used to analyze the frequency data collected on the State Trait Anxiety Inventory, the Attitude Toward Disabled Persons Scale, the semantic differential scales, and the Ten Point Scale.

The student's t-test for independent samples was used to analyze group difference in pretest-posttest change scores for the S-Anxiety Scale of the State Trait Anxiety Inventory. Repeated measure t-tests were computed for independent groups in order to test hypotheses one.

One way analysis of variance was also used to analyze the data collected on the State Trait Anxiety Inventory and the Attitude Toward Disabled Persons Scale. This one way subprogram computed for variances between and among groups in order to test hypotheses three and four.

Additional posttest data collected on the semantic differential served as validation measures for indications of attitudinal change

revealed by the Attitudes Toward Disabled Person Scale for the experimental groups.

The sighted subjects were measured on their perceptions of contact with the visually impaired. Similarly, the visually impaired were measured on their perceptions of the college student's attitude.

Each concept had seven bipolar adjective scales, and each scale contained seven steps. The form was modified to accommodate the visual disabilities of the visually impaired subjects.

Statistical analysis of the data was conducted using SPSS computer programs (Nie, 1975). The hypotheses were accepted at the .05 level of significance.

Summary

This experimental study was conducted to determine the effects of goal interdependence on attitudes of prospective teachers toward persons who have physical disabilities. The prospective teachers (N=45) were randomly assigned to experimental and control groups. Subjects in Experimental Group I, (15) played the electronic game "Simon Says" as partners with visually impaired persons for 20 minutes during four sessions. Experimental Group II (15) was involved in four 20 minutes structured interview sessions with visually impaired persons.

Control Group III (15) had no contact with the visually impaired students at a state residential school for the deaf and the blind.

Two major instruments were employed in this Pretest-Posttest Control Group Study. Attitudes were measured through the use of the Attitudes Toward Disabled Persons Scale. Anxiety (state and trait) was measured with the State-Trait Anxiety Inventory. Posttest semantic

differential scales provided some data about attitudes also.

Other instruments used in conjunction with the major ones served to provide additional information about the subjects and to control for the effects of pretest experimental interaction.

Hypotheses were tested to identify the expected effects of goal interdependence within two treatment conditions: cooperative game play and structured interview sessions.

Analysis of data and hypothesis testing employed repeated-measure t-tests for independent groups, t-test correlated means, and one-way analysis of variance.

CHAPTER IV

RESULTS

In this chapter, the statistical results of the study will be discussed in accordance with their relevance to the predictions stemming from research. The prediction was that the changes in the anxiety levels were related to the amount of discomfort reduction experienced and the formation of positive attitudinal shifts in experimental subjects as the result of positive goal interdependent experiences.

The statistical hypotheses were tested on the null. Completed data were collected and analyzed for 42 of the 45 prospective teachers in the study population. Data analysis was conducted for 15 subjects in Experimental Group I (Game); 15 subjects in Experimental Group II (Interview) and 15 subjects in the Control Group III. Three subjects did not complete the posttest anxiety and attitude scales.

Additional posttest data analysis was conducted for 23 experimental subjects and for 30 visually impaired participants in the study.

The computer programs used in data analysis made adjustments for the differences in group sizes.

Pre-Experimental Findings

Descriptive statistics and analysis of variance were used to analyze the pretest data on pre-manipulation type and amount of contact with the disabled, as well as on anxiety and attitudinal levels held.

The mean score by groups on the semantic differential scales (type of previous contact) were as follows: cooperative game group 7.33; structured interview group, 7.50; control group, 5.94. The results of one way analysis of variance showed nonsignificant differences between the cooperative game and structured interview and control subjects ($F = .046$; $df = 2, 42$; NS) mean scores.

The mean scores for groups on the Ten Point Scale were as follows: cooperative game groups, 5.80; structured interview group, 5.73; control group, 5.93. One way analysis of variance revealed that the mean scores were not significantly different from each other at the probability level of $p < .05$ ($F = .168$; $df = 2, 42$; NS).

Table 1 presents the pretest anxiety state mean scores and standard deviations for each of the subject groups as revealed by the state section of the State-Trait Anxiety Inventory.

As can be seen, the control group had the highest anxiety mean score followed by the interview group. The game group revealed the lowest mean score of the subject groups.

A one way analysis of variance was used to determine significance of variance among pretest group anxiety mean scores. As indicated by Table 2, the F value between groups was not statistically significant at the .05 level. These result suggest the homogeneity of the groups on this variable since the pretest state anxiety scores formed the basis for equating the groups by random assignment.

Means and standard deviations for pretest findings on attitudes by subject groups are presented in Table 7. A one way analysis of variance

TABLE 1
MEANS AND STANDARD DEVIATIONS FOR PRETEST STATE-ANXIETY
LEVELS BY SUBJECT GROUP AS MEASURED BY THE
STATE-TRAIT ANXIETY INVENTORY

	Control	Interview	Game
M	39.73	38.66	36.53
S.D.	9.64	9.67	8.89

N = 45

TABLE 2
 ANALYSIS OF VARIANCE FOR PRETEST STATE ANXIETY LEVELS AS
 MEASURED BY THE STATE-TRAIT ANXIETY INVENTORY

SOURCE	SS	df	MS	F
Between Groups	79.65	2	39.82	.45 (rounded)
Within Groups	3739.99	42	89.04	NS

F = .642 Significance Level = .05

was used to analyze the data. The results of the analysis are found in Table 3. As can be seen the between groups factor in the analysis did not reach the .05 level of significance.

The overall findings of the pre-experimental data strongly validate the homogeneity of the cooperative game, the structured interview, and the control groups on the dependent variables of the study.

Discomfort Reduction and Goal Interdependent Social Interactions

Further analysis was made to determine if there were differences in discomfort reduction or state anxiety levels between the cooperative game play group and the structured interview group as a result of goal interdependent social interaction with disabled persons.

Hypothesis 1: There is no significant difference in state anxiety levels between the cooperative game play group and the structured interview group as measured by the posttest scores on the state section of the State-Trait Anxiety Inventory.

The prediction pointed to greater discomfort reduction or a lower anxiety level for the cooperative game group than for the structured interview group (See Table 4).

Since the results of the one-tailed repeated measure t-test for independent groups on scores for the State Anxiety Scale of the State-Trait Anxiety Inventory revealed no significant (.05 level) difference in pretest posttest mean scores between the two experimental groups, hypothesis 1 was accepted.

Hypothesis 2: There is no significant difference in the change score on state anxiety levels for the cooperative game play group and

TABLE 3
 ANALYSIS OF VARIANCE FOR ATTITUDES TOWARDS
 DISABLED PERSONS SCALE PRETEST
 SCORES BY GROUPS

SOURCE	SS	df	MS	F
Between Groups	30.65	2	15.38	.049
Within Groups	13127.98	42	312.57	<u>NS</u>

p = .952 Significance Level - .05

the structured interview group as measured by the state section of the State-Trait Anxiety Inventory.

It was predicted that the cooperative game play group and the structured interview group would have significantly greater state anxiety levels during the pre-contact period of interaction than during the post-contact persons. This prediction suggested a significant change score for the experimental groups would be produced.

As can be seen in Table 4, the mean change score on state anxiety level differences was significant (.05 level) on the correlated mean t-test. The data did not support hypothesis 2, so it was rejected.

The finding is consistent with the finding regarding discomfort reduction as related to the pre- and post-initial contact periods of social interaction with disabled persons in the experimental setting. The results of a one-tailed correlated t-test yielded a t-value (6.82, $p < .01$) indicative of a significant change score on the State Anxiety Scale of the State-Trait Anxiety Inventory.

Differences in Trait Anxiety Among Groups

As stated by the authors (Spielberger et al, 1970) of the State-Trait Anxiety Inventory, trait anxiety may reflect individual differences in the frequency and intensity with which anxiety states have been manifested in the past, and in the probability that state anxiety will be experienced in the future. Persons high in trait anxiety generally respond more frequently with greater elevations in state anxiety to a wider range of situations as threatening than do low trait anxiety individuals.

TABLE 4
 MEANS, STANDARD DEVIATIONS, t-VALUES, AND MEAN CHANGE FOR
 PRETEST, POSTTEST SCORES ON THE STATE-ANXIETY SCALE
 FOR THE STATE-TRAIT ANXIETY INVENTORY BY
 EXPERIMENTAL GROUPS

Group	N		Pre-State Anxiety	t Value	df	Post-State Anxiety	t Value	df
1. Game	15	M	36.53			29.06		
		SD	8.98	-.63 NS	28	6.04	.55 NS	28
2. Inter- view	15	M	38.66	p=.268		27.86	p=.291	
		SD	9.67	(One-Tail)		5.80	(One-Tail)	
Mean Change Score = 9.13				t = 5.29*	p = .000	df = 29		

*Significant Beyond .05

Considering this conception, the posttest scores on trait anxiety (Form X-2) were examined for differences among subject groups in this study.

Table 5 presents the posttest trait anxiety mean scores and standard deviations for each subject group. As observed from the table, there are differences in trait anxiety levels among the groups.

In order to evaluate the differences, a one way analysis of variance among groups was used to analyze the data.

Hypothesis 3: There is no significant difference in trait anxiety levels between the cooperative game play group and the structured interview group and the control group as measured by the trait section of the State-Trait Anxiety Inventory.

It was predicted that there would be a significant difference in trait anxiety between the cooperative game play group and the structured interview group and the control group as measured by the trait section of the State-Trait Anxiety Inventory. The F-value (.202) as seen in Table 6 was not significant at the .05 level, indicating that the three groups did not produce significantly different trait anxiety scores. The data supported hypothesis 3 and it was accepted.

Change in Attitudes - Attitudes Toward Disabled Persons Scale

Means and standard deviations for pretest and posttest findings by subject groups are presented in Table 7. Some variability existed among group means on the pretest and posttest measures of the Attitudes Toward Disabled Persons Scale.

The descriptive data on mean pretest scores were considered

TABLE 5
MEANS AND STANDARD DEVIATIONS OF POSTTEST TRAIT ANXIETY
LEVEL SCORES BY SUBJECT GROUP AS MEASURED BY
THE TRAIT-ANXIETY SCALE OF THE STATE-TRAIT
ANXIETY INVENTORY

	Game	Interview	Control
M	39.40	41.13	41
SD	6.78	8.6	9.17
N	15	15	12

TABLE 6
 ANALYSIS OF VARIANCE FOR POSTTEST TRAIT ANXIETY LEVEL
 SCORES AS MEASURED BY THE TRAIT-ANXIETY SCALE OF
 THE STATE-TRAIT ANXIETY INVENTORY

SOURCE	SS	df	MS	F
Between Groups	27.15	2	13.57	.202
Within Groups	2625.33	39	67.31	NS
Total	2652.48	41		

p = .818 Significance Level - .05

TABLE 7
 MEANS AND STANDARD DEVIATIONS FOR PRETEST, POSTTEST SCORES OF
 ATTITUDES TOWARD DISABLED PERSONS SCALE BY GROUPS

GROUP		PRETEST	POSTTEST
	M	114.46	121.87
Game	SD	20.39	16.52
	M	116.33	126.47
Interview	SD	15.39	15.16
	M	114.73	114.50
Control	SD	16.87	15.8
N = 45 (Pretest) N= 42 (Posttest)			

previously, so a discussion of the posttest mean scores is given now. An inspection of the posttest data in Table 7 reveals higher mean scores for the experimental groups than for the control group. Further inspection relates the highest mean score to the structured interview group indicating the greatest positive attitudinal shift among the subject groups.

In order to evaluate the differences, a one way analysis of variance was employed.

Hypothesis 4: There is no significant difference in attitudes between the cooperative game play group and the structured interview group and the control group as measured by the posttest scores on the Attitudes Toward Disabled Persons Scale.

The prediction related to significantly more positive attitudes between the cooperative game group and the structured interview group and the control group as measured by the posttest scores on the Attitudes Toward Disabled Persons Scale.

No statistically significant differences between group mean scores were found at the .05 level, indicating support for hypothesis 4 (See Table 8). The hypothesis was accepted.

Other Findings

The results of independent t-tests in which the mean scores of experimental subjects in the cooperative game and the structured interview groups on the Attitudes Towards Disabled Persons Scale ($t = -.79$; $d.f. = 28$; $p = < .217$) and the semantic differential for

TABLE 8
 ANALYSIS OF VARIANCE FOR ATTITUDES TOWARD
 DISABLED PERSONS POSTTEST
 SCORES BY GROUPS

SOURCE	SS	df	MS	F
Between Groups	959.65	2	479.82	1.91 (Rounded) NS
Within Groups	9804.46	39	251.39	
Total	10764.11	41		

p = .161 Significance Level - .05

contact ($t = .31$; $d.f. = 21$; $p = < .381$) were not significantly different. The mean posttest scores on the Attitudes Towards Disabled Persons (ATDP) Scale indicated acceptance of visually impaired persons in that the mean for each group was more than 30 units above the minimum acceptance score of 90 on the scale. The mean scores on the semantic differential scales on perceptions of the contact with visually impaired persons were highly favorable in that the mean for each group was higher than 4.0, the neutral point on the seven point scale (See Table 9).

Descriptive analysis of the posttest data in Table 9, revealed little dispersion among group means indicating favorable perceptions of contact and attitudes, by the sighted subjects and the visually impaired. As can be seen in the table, the mean posttest scores for the semantic differential scales were favorable in that the mean for each group was higher than 4, the neutral point on the seven point scales.

Descriptive analysis of the posttest data collected on the semantic differentials supports the evidence of increased acceptance of physically disabled persons by the experimental groups as shown in Table 7.

As mentioned in Chapter I, there are assumptions that anxieties and attitudes are effected by the types of contact which the subjects in this study may have had. Therefore, a correlated t-test on the sample pre-posttest means of the semantic differentials on type of contact was used. The results revealed a negative correlation ($t = -.33$; $d.f. = 22$; $p = < .744$) between the means.

TABLE 9
 MEANS AND STANDARD DEVIATIONS OF POSTTEST SEMANTIC
 DIFFERENTIAL SCORES BY GROUPS

	Sighted			Visually I	
	Control N = 15	Game N = 12	Interview N = 11	Game N = 15	Interview N = 15
M	5.65	6.20	6.09	6.04	5.48
SD	.791	.825	.868	.631	.681

Summary

The analysis of pretest data collected with the semantic differential scales previous type of contact revealed that subject groups were not significantly different from each other.

Analysis of pretest data collected with the Ten Point Scale (amount of contact) revealed nonsignificant differences between the cooperative game group and the structured interview group and the control group.

Analysis of the pretest-posttest data with the State-Trait Anxiety Inventory revealed that subjects were not significantly different from each other in anxiety states prior to experimental manipulations. The experimental groups experienced significant discomfort reduction after the manipulations, yet there was no significant difference in discomfort reduction when statistically compared with each other in the repeated measure t-tests.

There were no significant difference in trait anxiety when the experimental and control groups were compared on the Trait-Anxiety Scale of the State-Trait Inventory.

Analysis of pretest-posttest data with the Attitudes Towards Disabled Persons Scale revealed no significant differences among groups on pretest-posttest attitude scores. The descriptive data on attitudes indicated, however, that there was a greater positive attitudinal shift for the experimental groups than for the control group relating the greatest positive shift to the structured interview group.

Hypothesis 1 was tested and accepted, at the .05 level of confidence, based on the results of one-tailed repeated measure t-test for

independent groups.

Hypothesis 2 was tested and rejected, at the .05 level of confidence, based on the results of a one tail correlated means t-test.

Hypothesis 3 was tested and accepted, at the .05 level of confidence, based on the results of one-way analysis of group variance.

Hypothesis 4 was tested and accepted at the .05 level of confidence, based on the results of one-way analysis of group variance.

Comparisons between the experimental groups using Student's t-test for independent samples on the ATDP Scale posttest attitude scores and analysis, of their perceptions of contact with the visually impaired students on the semantic differential revealed increased acceptable or favorable attitudes.

The visually impaired students in the study had very favorable perception of the sighted subjects' attitudes toward them as measured by the seven semantic differential scales. Their mean scores, 6.04 (game) and 5.48 (interview) were higher than 4.0, the neutral point on the seven point scales.

CHAPTER V

SUMMARY, CONCLUSIONS, AND IMPLICATIONS

Summary

The purpose of this experimental study was to determine if the attitudes of undergraduate prospective teachers at Hampton Institute toward visually impaired persons could be positively effected by cooperative game play and the structured interview as well as to ascertain if cooperative game play is a more effective method for attitude change.

The effects of these goal interdependent types of social interaction were measured independently and in combination to identify relationships between these two variables and effective methods for influencing attitude change in prospective teachers toward the physically disabled.

Evidence was presented to document that public attitudes toward disabled persons are generally less than positive. It was revealed that difficulties encountered in interpersonal relations seemed to form the basis for the negative views which are held.

The legislators envision the public school as the site where negative views could be change. The passage of the federal law, Education for All Handicapped Children Act of 1975 (P.L. 94-142)

demonstrated their recognition of the special problems which disabled persons face in society.

One problem facing the implementation of this law is associated with the reluctance of many classroom teachers to accept disabled students into the regular classroom setting. Many teachers seem to hold negative attitudes toward disabled students.

A review of the literature documented that effective methods for influencing changes in teachers' attitudes toward the disabled have not been clearly defined. Previous studies have examined the effects of increased contact between the disabled and the nondisabled, discomfort reduction in social interaction as well as the effects of goal interdependence during social interaction. The studies involving these techniques were inconsistent: some were positive, some had negative results while others effected no change at all.

Some studies were structured around the use of goal interdependence in cross-interactions with disabled persons. Only one study involved cross-interaction with the blind. Also, no controlled study was found pertaining to prospective teachers in cross-interaction experiences with the blind or the visually impaired individuals. Therefore, this research was designed to test the effects of goal interdependent types of social interaction as a basis for influencing attitude change in a positive direction for prospective teachers.

An eclectic approach formed the theoretical framework for this study. It was used first to integrate several social psychological constructs into a change strategy; secondly, to generate a set of

research hypotheses; and finally, to select content and methodology for the goal interdependent experiences incorporated this study.

A Pretest-Posttest Control Group design was used to measure and compare three treatment effects: cooperative game play (Group I); structured interviews (Group II); and control (Group III).

The population consisted of all undergraduate education majors in the School of Education at Hampton Institute. They were regular education majors (elementary and secondary levels, physical education) and special education majors. They were randomly assigned to experimental and control groups. Three groups of 15 students each participated.

Thirty blind and visually impaired students enrolled in a state residential school for the deaf and the blind were also participants in the study. The experimental manipulation occurred at this school.

Experimental Group I (15) played the electronic game, "Simon Says" as partners with visually impaired persons for 20 minutes during four sessions of social interaction. A dyad of a sighted subject and a visually impaired confederate collaborated to beat Simon and another dyad of the same composition. Scoring was recorded on the basis of the number of times each dyad beat Simon as well as the other team.

Experimental Group II (15) was involved in four 20 minute structured interview sessions with visually impaired persons. Each subject was interviewed in a one-to-one correspondence by a visually impaired person who demonstrated no averseness to the discussion of his or her feelings about the disability. The interview questions were

structured to initiate discussion on preselected topics which were divided among four sessions of social interactions.

The Control Group III (15) had no contact with the visually impaired students at this state residential school for the deaf and the blind.

Major pretest data were collected using the Attitudes Toward Disabled Persons Scale and the State-Trait Anxiety Inventory. Secondary data were collected through the use of semantic differential scales and a 10 point amount of contact scale. Rotter's locus of control scale and the Crowne-Marlowe Social Desirability Scale were administered to reduce test interaction effects on the ATDP Scale.

Posttest data were collected on the ATDP Scale, the State-Trait Anxiety Inventory, and on seven semantic differential rating scales. A questionnaire and file materials furnished data on demographics.

The data were analyzed and the hypotheses tested using descriptive statistics, t-tests for independent groups, correlated means and repeated measures, and one-way analysis of variance.

The predicted discomfort reduction did occur significantly for the experimental groups during the course of initial pre-post contact periods with the visually impaired students as measured by the State-Anxiety Scale of the State-Trait Anxiety Inventory. There was significant difference in discomfort reduction, as predicted, for the experimental subjects as measured by the State-Anxiety Scale of the State-Trait Anxiety Inventory. There was no significant difference in discomfort reduction between the structured interview group and the

cooperative game play group as measured by the State-Anxiety Scale of the State-Trait Anxiety Inventory. There were no significant differences among groups' (I, II, III) state anxiety prior to experimental manipulations. Also, there were no differences among groups on anxiety traits as measured by State-Anxiety Scale of the State-Trait Anxiety Inventory.

The data collected on the Attitudes Toward Disabled Persons Scale ($p < .05$) revealed through analysis that:

1. There were no significant differences in attitudes of subjects differing on levels of anxiety.
2. There was no significant difference in attitudes between the cooperative game play group and the structured interview group.
3. There was no significant difference in attitudes between the cooperative game group and the control group.
4. There was no significant difference in attitudes between the structured interview group and the control groups.
5. The cooperative game group and the structured interview group appeared to have experienced more positive attitudinal shifts than the control group.
6. The structured interview group experienced the highest level of positive attitudinal shift among subject groups.

Analysis of data collected on the semantic differential scales for perceptions of contact with the visually impaired revealed that there was no significant difference between the means of the ATDP Scale and

the semantic differential scales.

Analysis of descriptive statistics comparing perceptions of the sighted subjects with the visually impaired revealed minimal means dispersion on the seven point scales indicating homogeneity of the groups in their perceptions. These findings lead to the inference that the prospective teachers favored their social interaction sessions with the visually impaired and the visually impaired persons' perceptions corroborated the presence of positive attitudes toward them.

Conclusions

Within the context of this study, the data obtained led to the following conclusions:

1. Undergraduate prospective teachers initially held positive attitudes toward visually impaired persons.
2. Undergraduate prospective teachers interacting initially with persons who have visually impairment may experience feelings of discomfort.
3. Discomfort reduction for undergraduate prospective teachers may occur after a period of positive goal interdependent social interaction.
4. The data tentatively suggest that structured interviews may effect more discomfort reduction than cooperative game play for undergraduate prospective teachers during social interaction with the visually impaired persons.
5. Positive attitudinal shifts are not necessarily influenced by discomfort reduction for undergraduate

prospective teachers during social interactions with visually impaired persons.

6. It appears that type of contact is a significant factor in promoting acceptance of visually impaired persons by undergraduate prospective teachers.

Discussion

The collected data of this investigation leads to inconclusive indications that the attitudes of undergraduate prospective teachers can be significantly influenced by the methods of cooperative game play and the structured interview for the development of positive goal interdependence during social interaction.

There are several possible explanations for these results. The pretest scores revealed the homogeneity of the subjects in the experimental and control groups on the dependent variables, discomfort reduction and attitudes, prior to experimental manipulations. The subjects were very similar in their pretest anxiety state mean scores which approximated the national norm mean scores for college students (male-36.47; female-38.76). Also, they were essentially the same in their attitudes on the pretest measure with the mean scores exceeding the sum of 90 indicating respondent perceptions of retain disabled persons as being non-different from non-disabled persons. An approximation to the norm score for nondisabled females was noted. As for previous type and amount of contact, the similarity in pretest scores was maintained. It can be assumed that the efficacy of the random selection and assignment processes was instrumental. In addition, it

should be recognized that the attitudes held by the prospective teachers toward the disabled persons appeared to be positive.

The data on anxiety confirmed the prediction that undergraduate prospective teachers would experience feelings of discomfort in their initial interactions with the visually impaired and that the discomfort would be reduced significantly by the end of the social interaction period. The data lends support to the authors of the State-Trait Inventory Scale in their explanation that when the S-Anxiety scale is given under neutral conditions, the mean score for the group will approximate its mean T-Anxiety score. When the S-Anxiety scale is given under relaxed circumstances the group's mean score will be much lower than its mean T-Anxiety score. Analysis of the data showed significant reduction of discomfort at the .01 level for experimental subjects after treatment.

The results did not show, however, significant differences between the groups over a period of time. The prediction stated that the cooperative game group would experience more discomfort reduction than the structured interview group. The findings were contrary to the predictions.

These results were consistent with those of Evans (1976) in that nondisabled subjects who interacted with blind persons experienced higher levels of discomfort initially but demonstrated lower levels of discomfort over the period of interaction time. Also, he found no significant differences between the groups over time.

One plausible explanation for the lack of significance of results

in this present study may be based upon Lewin's (1938) concept of interdependence. He theorized that a change of difference in tension and anxiety would depend on the degree of interdependence. Perhaps the degree of interdependence within cooperative game play is the same as that which is within the structured interview. This conclusion would be on firmer ground, if the posttest on state anxiety had been administered to the control group also thereby rendering the possibility to empirically determine whether the experimental groups' discomfort had been reduced significantly more so than the Control group. However, to have accomplished this meant exposing all of the subjects to the anxiety-provoking experiences. Perhaps this can be achieved in future research efforts.

Another answer is that the duration of interaction was not sufficient to allow time for dynamic social judgments (Johnson et al, 1983) to be made among the group participants so that more differentiated goal interdependence and discomfort reduction could have occurred.

It was predicted, on the basis of the eclectic pattern of interdependence theory as described in Chapter 1, that goal interdependence could significantly, reduce the discomfort generally experienced between the nondisabled and the disabled during social interaction, and, thereby, shift attitudes in a positive direction. An analysis of findings showed that the experimental subjects produced more favorable attitudes than did the control group. The posttest mean discrepancy between the structured interview group and the control group was 11.97; the mean discrepancy between the cooperative game group and the control group

was 7.36. However, the positive attitudinal shift did not reach a significant difference level at .05.

These findings may be explained from the theoretical base as outlined in Chapter 1. It appears that the experimental subjects were in the "moving" stage of attitude formation and the duration period of the experimental manipulation did not allow enough time to reach the "refreezing" stage.

It may be further explained that the magnitude and direction of attitudinal change is a function of perceived interdependence. If this is so, then the duration of manipulation was too insufficient to allow time for development of mutual perceptions of self-actualization toward goal attainment (in this instance-greater positive attitude shift). The findings also indicate the interdependence between the nondisabled and the disabled in locomotion toward their respective goals (Kelley, 1979).

Findings associated with the interaction effects of discomfort reduction on attitudes of experimental subjects were nonsignificant. The results of the anxiety measure have revealed, that the experimental subjects experienced reduction of discomfort during the interaction sessions. However, the data on attitude change suggest that factors in addition to discomfort reduction may have had some effects.

The results are similar to those of Evans (1976) in that tension was reduced in his subjects but not significantly more so than occurred in those who lacked the experience of the experimental manipulation.

Furthermore, earlier studies (Evans, 1976; Rapier et al., 1972; Yaker et al., 1966) considered the factor of type of contact to

effectuate positive attitudinal shifts. The fact that the present study also structured the type of contact for the social interaction between the nondisabled and the disabled may have had effect on attitude shifts.

The findings of the data collected on the semantic differentials involving perceptions of contact and attitudes served to substantiate.

Judging from these results, it is highly possible that the type of contact factor, discomfort reduction, and goal interdependence may have operated interrelatedly to produce the observed effects. Within the context of this present study, it is unclear how to attribute the percentage of each factor's effect on attitudinal shifts.

Implications for Teacher Education

The investigation was successful in promoting positive attitudinal shifts in undergraduate prospective teachers toward persons who have physical disabilities. Although it was unclear as to the percentage of effect goal interdependent experiences had on the shift of attitudes in a more positive direction for the prospective teacher, it was obvious that the type of contact which is structured for social interaction between the nondisabled and the disabled is a major factor for success.

The findings indicate that an educational foundations program integrated within the teacher education curriculum, should assist prospective teachers to clarify their attitudes and values toward physically disabled persons by providing them with first-hand interactions with disabled persons. Secondly, the increased experiential education with the disabled should provide opportunities for open exchange of feelings and concerns for each other. Finally, the

data implied that cooperative games and structured interview may be employed as media to provide opportunities for realistic interactions between prospective teachers and disabled persons. The essential issue is to integrate a potent affective component into the curriculum.

Recommendations for Further Study

The manipulations in this study involved the employment of two goal interdependent types of social interaction to effect a positive attitude shift for nondisabled undergraduate prospective teachers toward visually impaired persons. Goal interdependence was expected to reduce the discomfort involved in interpersonal relations between the disabled and the nondisabled.

Since the overall results of the study were inconclusive, it is recommended that future research would increase the duration and intensity of the experimental manipulation. The sample size should be increased with greater control for experiments and subject expectancies.

The structure of the interview sessions appeared to have been more effective than that of the cooperative game play. Therefore, in the future more specific structure should be applied to insure cooperative efforts on the part of the players.

Furthermore, in using the State-Trait Anxiety Inventory the Form X-1 should be used on a test-retest basis with the control group as well as with the experimental groups. However, this procedure will necessitate a research design in which the control group will be involved in the experimental manipulation.

The research efforts may be more productive if a different

theoretical approach is used in the future.

However, varied the efforts, the research in the area of attitude change toward persons who have visual impairments should be continued for the sake of obtaining realistic knowledge about human relations.

APPENDIX A

HAMPTON INSTITUTE
HAMPTON, VIRGINIA 23668

SCHOOL OF EDUCATION

Dear Student:

I hope that you will experience success in your educational endeavors this semester, for learning is a process which produces change. There are many avenues to learning. One of them is research. Valuable information can be collected through research.

With this in mind, I am conducting a research project designed to collect data relative to the production of change in a teacher education curriculum. As a future teacher, you can make a tremendous contribution toward change by participating in this project. A time period encompassing _____ will be required.

Your acceptance of this opportunity will indicate your desire for preprofessional growth and a certificate of recognition for your participation.

Please complete the brief questionnaire and the Consent Form in full and return them to me immediately. Thank you for your support and cooperation.

Sincerely,

Clarissa D. Banks
Assistant Professor of
Elementary and Special Education

QUESTIONNAIRE

Name _____ Age _____ Social Sec.# _____

Sex ----- M F (Circle One)

Local Address _____ Local Tel.# _____

Major _____ Classification _____

Do you have free time between 1:00 p.m. and 3:00 p.m. on Mondays through Thursdays? (YES --- NO) If yes, state days and an hour block of time.
Circle one.

Are you free between 9:00 a.m. and 11:00 a.m. on Fridays? (YES --- NO)
Circle one.

Do you have a car to drive from H.I. campus? (YES --- NO)
Circle one.

If gas is furnished, would you be willing to drive other participants to the site of the research project? (YES --- NO).

Consent Form

I hereby agree to participate in the study, "An Experimental Study of the Effects of Goal Interdependence on the Anxiety Levels and Attitudes of Prospective Teachers Toward Visually Impaired Persons," being conducted by Clarissa D. Banks, a faculty member of Hampton Institute.

I understand that names will not be used and that all information will be kept confidential. I will be asked to participate in playing the game, "Simon" or in interview sessions. There will be no risks involved.

I also understand that I may withdraw from the study at anytime I desire, although full term participation is desirable.

Signature _____

Date _____

Parent's Signature (For permission to participate if under 18)

APPENDIX B

PLEASE NOTE:

Copyrighted materials in this document have not been filmed at the request of the author. They are available for consultation, however, in the author's university library.

These consist of pages:

99-101 : Adapting Audio Video Games for Handicapped Learners.

103-104 : ATDP Scale.

108-111 : Rotter's I-E Scale.

112-113 : Marlowe-Crowne Scale.

**University
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APPENDIX C

SELF-EVALUATION QUESTIONNAIRE
Developed by C.D. Spielberger, R.L. Gorsuch and R. Lushene
STAI FORM X-1

NAME _____

DATE _____

DIRECTIONS: A number of statements which people have used to describe themselves are given below. Read each statement and then put an X over the number to the right of the statement which indicates how you feel right now, that is, at this moment. There are no right or wrong answers. Do not spend too much time on any one statement, but give the answer which seems to describe your present feeling best.

	Not at all	Somewhat	Moderately so	Very much so
1. I feel calm	1	2	3	4
2. I feel secure	1	2	3	4
3. I am tense	1	2	3	4
4. I am regretful	1	2	3	4
5. I feel at ease	1	2	3	4
6. I feel upset	1	2	3	4
7. I am presently worrying over possible misfortunes .	1	2	3	4
8. I feel rested	1	2	3	4
9. I feel anxious.	1	2	3	4
10. I feel comfortable	1	2	3	4
11. I feel self-confident	1	2	3	4
12. I feel nervous	1	2	3	4
13. I am jittery	1	2	3	4
14. I feel "high strung".	1	2	3	4
15. I am relaxed	1	2	3	4
16. I feel content	1	2	3	4
17. I am worried	1	2	3	4
18. I feel over-excited and rattled	1	2	3	4
19. I feel joyful	1	2	3	4
20. I feel pleasant	1	2	3	4

I will not discuss this experience after I leave this place. No. _____

SELF-EVALUATION QUESTIONNAIRE
STAI FORM X-2

NAME _____

DATE _____

DIRECTIONS: A number of statements which people have used to describe themselves are given below. Read each statement and then blacken in the appropriate circle to the right of the statement to indicate how you generally feel. There are no right or wrong answers. Do not spend too much time on any one statement but give the answer which seems to describe how you generally feel.

	Almost Never	Somewhat	Often	Almost Always
21. I feel pleasant	1	2	3	4
22. I tire quickly	1	2	3	4
23. I feel like crying	1	2	3	4
24. I wish I could be as happy as others seem to be	1	2	3	4
25. I am losing out on things because I can't make up my mind soon enough	1	2	3	4
26. I feel rested	1	2	3	4
27. I am "calm, cool, and collected".	1	2	3	4
28. I feel that difficulties are piling up so that I cannot overcome them	1	2	3	4
29. I worry too much over something that really doesn't . . . matter	1	2	3	4
30. I am happy	1	2	3	4
31. I am inclined to take things hard	1	2	3	4
32. I lack self-confidence	1	2	3	4
33. I feel secure	1	2	3	4
34. I try to avoid facing a crisis or difficulty	1	2	3	4
35. I feel blue	1	2	3	4
36. I am content	1	2	3	4
37. Some unimportant thought runs through my mind and bothers me	1	2	3	4
38. I take disappointments so keenly that I can't put them out of my mind	1	2	3	4
39. I am a steady person	1	2	3	4
40. I become tense and upset when I think about my present concerns	1	2	3	4

Name: _____

Age: _____

Sex: _____ M F (circle one)

On the following short scale, rate the contacts that you have had with person(s) with a disability. Focus upon your interactions with the disabled person(s), and rate this contact, rather than upon the person(s) himself or herself. Make a mark along the continuum between each pair of bipolar adjectives to indicate your feelings about the interactions.

GOOD	_____	BAD
VOLUNTARY	_____	INVOLUNTARY
VALUABLE	_____	WORTHLESS
THREATENING	_____	NON-THREATENING
KIND	_____	CRUEL
OFFENDING	_____	UNOFFENDING
PLEASANT	_____	UNPLEASANT
UNEASY	_____	COMFORTABLE
HAPPY	_____	SAD
NERVOUS	_____	RELAXED
NICE	_____	AWFUL
EQUAL	_____	INFERIOR

Subject Number _____

Sex _____

On the following short scale, rate the contacts that you have had with blind person(s). Focus upon your interactions with the blind person(s), and rate this contact, rather than upon the person(s) himself or herself.

Make a mark along the continuum between each pair of bipolar adjectives to indicate your feelings about the interactions.

GOOD	_____	BAD
VALUABLE	_____	WORTHLESS
NEGATIVE	_____	POSITIVE
NICE	_____	AWFUL
UNPLEASANT	_____	PLEASANT
SOCIABLE	_____	UNSOCIABLE
HAPPY	_____	SAD

Content: College Student Attitude

Rate the attitude of the person with whom you interacted when the college students visited your school. Read down the list of ratings. Make a mark at the end of one line only for each numbered group of lines to show your feelings about the person.

1. very, very good
very good
a little good
neither good nor bad
a little bad
very bad
very, very bad
2. very, very valuable
very valuable
a little valuable
neither valuable nor worthless
a little worthless
very worthless
very, very worthless
3. very, very negative
very negative
a little negative
neither positive nor negative
a little positive
very positive
very, very positive
4. very, very nice
very nice
a little nice
neither nice nor awful
a little awful
very awful
very, very awful
5. very, very unpleasant
very unpleasant
a little unpleasant
neither pleasant nor unpleasant
a little pleasant
very pleasant
very, very pleasant
6. very, very sociable
very sociable
a little sociable
neither sociable nor unsociable
a little unsociable
very unsociable
very, very unsociable
7. very, very happy
very happy
a little happy
neither happy nor sad
a little sad
very sad
very, very sad

REFERENCE NOTE

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Vita

Name: Clarissa D. Jackson Banks

Date of Birth: January 1, 1917

Place of Birth: Washington, D.C.

Education:

1934-38 - Miner Teachers College

Washington, D.C.

Bachelor of Science Degree in
Elementary Education

1966-68 - State University of New York at Potsdam

Potsdam, New York

Master of Science in Education

1974-84 The College of William and Mary in

Virginia

Williamsburg, Virginia

Master of Education in Special Education
with Mental Retardation Emphasis

Certificate of Advanced Graduate

Study in Education

Candidate for the Doctor of Education

Degree in Educational Administration,

Special Education

ABSTRACT

AN EXPERIMENTAL STUDY OF THE EFFECTS OF GOAL INTERDEPENDENCE
ON THE ANXIETY LEVELS AND ATTITUDES OF PROSPECTIVE
TEACHERS TOWARD VISUALLY IMPAIRED PERSONS

Clarissa D.J. Banks, Ed.D.

The College of William and Mary

in Virginia, December, 1984

Chairman: Professor Louis P. Messier

This study investigated the effects of cooperative game play and structured interview on the anxiety levels and attitudes of prospective teachers toward persons with visual impairments. The major strategy for attitude change was based on Deutsch's theory of cooperation in social interaction utilizing the framework of Johnson and Johnson's social judgment process in conjunction with Kurt Lewin's theory of "reduction of restraining forces."

Forty-five undergraduate education majors were randomly assigned to a control group or two experimental treatment groups for the purpose of modifying their attitudes toward persons with visual impairments.

The experimental conditions involved two groups of 15 prospective teachers each. Each member of group one functioned as a partner of a visually impaired person in playing the electronic game "Simon." They formed a dyad which collaborated to beat "Simon." Members of group two interacted with a visually impaired person during interview sessions which were structured around ten familiar topical areas. The experimental treatment involved 20 minutes of social interaction during four interaction sessions within a period of two weeks. The control group experienced no contact with the visually impaired persons.

Pretest-Posttest data were collected using the Attitudes Toward Disabled Persons Scale (ATDP), Forms A and B; the State-Trait Anxiety Inventory, (STAI); Forms X-1 and X-2; semantic differential scales; and a 10 point amount of contact scale.

Data analysis of STAI showed the experimental subjects experienced reduction of discomfortable feelings while interacting with the visually impaired. However, there was insignificant difference between the two groups. Analysis of the ATDP showed a positive shift in attitudes toward persons with physical disabilities.

Similarly, there was insignificant difference between experimental group changes although both groups exceeded the control group on posttest mean scores. The semantic differential scales indicated close agreement between perceptions of contact and attitudes for both the nondisabled and visually impaired persons.

It appears that the amount and type of contact is crucial to attitude formation and modification. The significant effects of cooperative game play and the structured interview as goal interdependent experiences for positive attitudinal shifts are inconclusive on the basis of the study's findings.

Further study is needed to substantiate the effects of cooperative game and the structured interview as goal interdependent experiences for positive attitude shifts for undergraduate prospective teachers toward persons who have visual impairments.