THE IMMEDIATE EFFECT OF CLASSROOM INTEGRATION ON THE
ACADEMIC PROGRESS, SELF-CONCEPT, AND RACIAL
ATTITUDES OF ELEMENTARY WHITE STUDENTS

APPROVED:

Graduate Committee:

[Signatures of committee members]

James N. Dougherty
Major Professor

Paul E. Smith
Committee Member

Hervey A. Nevisan
Committee Member

Evaine Lingrey
Dean of the School of Education

Robert B. Toulouse
Dean of the Graduate School

The primary purpose of this study was to investigate the differences and changes in integrated and segregated white students' self-concepts, racial attitudes, and academic achievements.

Changes and differences in the three areas investigated were determined by comparing a group of ninety integrated white children in grades four and five with a matched group of ninety segregated white children. The pupils were matched on a basis of sex, grade level, mental ability, and socioeconomic status. The integrated students were sub-divided according to sex and the proportion of classroom integration.

The testing devices utilized to measure changes were equivalent forms of the *California Test of Personality*, the *Purdue Racial Attitude Scale*, and the *Iowa Test of Basic Skills*. The testing instruments were administered to the integrated and the segregated pupils at the beginning and at the end of the school year. The changes in the groups of students and their sub-groups were determined by statistical procedures employing "t" tests, analysis of variance tests, and correlations.
The self-concept findings were:
1. The integrated white students failed to significantly exceed the growth of the segregated students.
2. White students in classrooms containing 26 to 55 per cent Negroes obtained lower mean gains in self-concept than did the segregated students.
3. As the Negro membership in integrated classes increased, the mean gains in self-concept decreased.
4. The mean gains made by the male and female subjects were not significant.

The racial attitude findings were:
1. The integrated white students failed to significantly exceed the growth of the segregated students.
2. White students in classrooms containing 26 to 55 per cent Negroes achieved significantly greater mean gains in racial attitudes than did the segregated students and improved their attitudes more rapidly than did the pupils in the other integrated classrooms.
3. The mean gains made by the males and females were not significant.
4. The changes in attitude were not related to the changes in achievement.

The academic achievement findings were:
1. The integrated white students failed to significantly exceed the growth of the segregated students.
2. White students in classrooms containing 26 to 55 percent Negroes obtained greater mean gains in academic achievement than did the segregated students.

3. The mean gains made by the males and females were not significant.

The findings reported in this study supported the following conclusions:

1. Gains in self-concept, racial attitude, and academic achievement will not be related to a child's sex.

2. Students in integrated classrooms with a 26 to 55 percent Negro enrollment will improve their racial attitudes more rapidly than will segregated students.

3. Students in integrated classrooms with a 26 to 55 percent Negro enrollment will improve their racial attitudes more rapidly than will other white students attending classrooms with various degrees of integration.

4. The academic achievement of integrated and segregated white pupils will not be significantly related to changes in racial attitudes.
THE IMMEDIATE EFFECT OF CLASSROOM INTEGRATION ON THE ACADEMIC PROGRESS, SELF-CONCEPT, AND RACIAL ATTITUDES OF ELEMENTARY WHITE STUDENTS

DISSERTATION

Presented to the Graduate Council of the North Texas State University in Partial Fulfillment of the Requirements

For the Degree of

DOCTOR OF EDUCATION

By

Kenneth E. Cypert, M. Ed.

Denton, Texas

December, 1971
TABLE OF CONTENTS

LIST OF TABLES ................................................. v

Chapter

I. INTRODUCTION .............................................. 1

Statement of the Problem
Purposes of the Study
Hypotheses
Background and Significance of the Study
Definition of Terms
Limitations
Basic Assumptions
Procedures for Collecting Data
Procedures for Analysis of Data

II. A REVIEW OF RELATED LITERATURE AND RESEARCH ... 21

Introduction
Attitudes
Academic Achievement
Self-Concept

III. DESIGN FOR STUDYING THE RELATIONSHIPS AMONG ATTITUDE, PERSONALITY, AND ACHIEVEMENT OF INTEGRATED WHITE STUDENTS .... 39

Sampling Procedure
Matching Procedure
Procedure for Collecting Data
Treatment of Data

IV. PATTERNS OF CHANGE AMONG ATTITUDE, PERSONALITY, AND ACHIEVEMENT OF INTEGRATED WHITE STUDENTS ........ 57

Hypotheses Concerning Self-Concept
Summary of Self-Concept Facts
Hypotheses Concerning Attitude
Summary of Attitude Data
Hypotheses Concerning Achievement
Summary of Achievement Data
<table>
<thead>
<tr>
<th>Chapter</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>V. SUMMARY, FINDINGS, CONCLUSIONS, AND RECOMMENDATIONS</td>
<td>87</td>
</tr>
<tr>
<td>Summary</td>
<td></td>
</tr>
<tr>
<td>Findings</td>
<td></td>
</tr>
<tr>
<td>Conclusions</td>
<td></td>
</tr>
<tr>
<td>Implications and Recommendations</td>
<td></td>
</tr>
<tr>
<td>BIBLIOGRAPHY</td>
<td>98</td>
</tr>
<tr>
<td>Table</td>
<td>Page</td>
</tr>
<tr>
<td>-------</td>
<td>------</td>
</tr>
<tr>
<td>I. Schools in Each of the Experimental Groups</td>
<td>41</td>
</tr>
<tr>
<td>II. &quot;Student Membership in Experimental Subjects' Schools and Classrooms&quot;</td>
<td>44</td>
</tr>
<tr>
<td>III. Comparison of Integrated and Segregated Subjects on the California Test of Personality</td>
<td>58</td>
</tr>
<tr>
<td>IV. Sub-Group Comparison of Mean Gains: Each Integrated Group Compared to Segregated Groups on the California Test of Personality</td>
<td>60</td>
</tr>
<tr>
<td>V. Mean Gains of Integrated Subjects by Proportion of Classroom Integration on the California Test of Personality</td>
<td>62</td>
</tr>
<tr>
<td>VI. Male Mean Gains Compared to Female Mean Gains on the California Test of Personality</td>
<td>64</td>
</tr>
<tr>
<td>VII. Comparison of Integrated and Segregated Subjects on the Purdue Master Attitude Scale</td>
<td>66</td>
</tr>
<tr>
<td>VIII. Sub-Group Comparison of Mean Gains: Each Integrated Group Compared to the Segregated Groups on the Purdue Master Attitude Scale</td>
<td>68</td>
</tr>
<tr>
<td>IX. Mean Gains of Integrated Subjects by Proportion of Classroom Integration on the Purdue Master Attitude Scale</td>
<td>70</td>
</tr>
<tr>
<td>X. Sub-Group Comparison of Integrated Pupils By &quot;t&quot; Test on the Purdue Master Attitude Scale</td>
<td>71</td>
</tr>
<tr>
<td>XI. Significance of Sex Differences on the Purdue Master Attitude Scale</td>
<td>72</td>
</tr>
<tr>
<td>Table</td>
<td>Page</td>
</tr>
<tr>
<td>-------</td>
<td>------</td>
</tr>
<tr>
<td>XII. Male Mean Gains Compared to Female Mean Gains on the Purdue Master Attitude Scale</td>
<td>73</td>
</tr>
<tr>
<td>XIII. Comparison of Male and Female Subjects on the Purdue Master Attitude Scale by &quot;t&quot; Test</td>
<td>75</td>
</tr>
<tr>
<td>XIV. Correlation of Mean Gains on the Purdue Master Attitude Scale and the Iowa Test of Basic Skills</td>
<td>76</td>
</tr>
<tr>
<td>XV. Comparison of Integrated and Segregated Subjects on the Iowa Test of Basic Skills</td>
<td>78</td>
</tr>
<tr>
<td>XVI. Sub-Test Mean Gains on the Iowa Test of Basic Skills</td>
<td>79</td>
</tr>
<tr>
<td>XVII. Sub-Group Comparison of Mean Gains; Each Integrated Group Compared to Segregated Groups on the Iowa Test of Basic Skills</td>
<td>81</td>
</tr>
<tr>
<td>XVIII. Mean Gains of Integrated Subjects by Proportion of Classroom Integration on the Iowa Test of Basic Skills</td>
<td>82</td>
</tr>
<tr>
<td>XIX. Significance of Sex Differences on the Iowa Test of Basic Skills</td>
<td>83</td>
</tr>
<tr>
<td>XX. Male Mean Gains Compared to Female Mean Gains on the Iowa Test of Basic Skills</td>
<td>85</td>
</tr>
</tbody>
</table>
A free public school system can provide every young person in America with an equal, appropriate educational opportunity. This premise is indispensable to the maintenance and growth of a genuinely democratic society in which an equal opportunity for all is a cherished American dream.

The intent of the Supreme Court in ordering the desegregation of the public schools in 1954 was to provide equal rights and opportunities for all young learners by improving the quality of education.

Those pupils who do not attend integrated schools are deprived of learning experiences that would help prepare them for more effective living in our democratic, integrated society. "Segregation on grounds of race . . . denies children, white or Negro, a chance to obtain a broader perspective of the society" (8, p. 2).

Education and equal educational opportunity are fundamentally necessary for effective living in America. They are our best means of obtaining adequately trained manpower and a thinking citizenry.

In short, school integration demands that, on the basis of comprehensive desegregation, there be sustained and serious efforts to develop scholastic competence and
democratic values and relationships in all aspects of a school's program (15, p. 84).

Yet, many parents of white children feel that they are being forced to send their children to inferior integrated schools. Some families sell their homes and move rather than permit their children to attend integrated schools. Some parents think that a mixing of the white and black races will cause a lowering of the white pupil's academic achievement, create racial mistrust and misunderstanding, and lower morals through changes of self-concept.

One of the general goals of this study was to make an analysis of the self-concepts, racial attitudes, and academic progress of integrated white students, to ascertain if, indeed, integration benefits all pupils, especially the predominantly white American student groups.

Statement of the Problem

The problem of this study was to determine the immediate effect of classroom integration on the self-concepts, racial attitudes, and academic progress of white students in the elementary schools.

Purposes of the Study

The purposes of this study were: (1) to determine how the change in a measure of self-concept of white students in integrated upper-elementary school classrooms will compare with that of similar white students attending classrooms
composed of all-white children, (2) to determine how the change in a measure of attitude of white students toward Negro students in integrated upper-elementary school classrooms will compare with that of similar white students attending all-white schools, (3) to determine how the change in performance on standardized achievement tests taken by white students in integrated upper-elementary school classrooms will compare with that of similar white pupils attending all-white schools, (4) to determine if the changes in self-concept, racial attitudes, or academic progress of white students attending integrated classrooms will be related to their sex or achievement level, and (5) to determine if the changes in self-concept, racial attitudes, or academic progress of white students attending integrated classes will be related to the proportion of integration within the classrooms.

Hypotheses

To carry out the purposes of this study, the following hypotheses were formulated:

1. White students in integrated classrooms will indicate significantly greater mean gains in self-concept as measured by the California Test of Personality, Part I than will the students attending all-white schools.

2. Students in all-white classrooms will obtain significantly lower mean gains in self-concept than will the white
students in classrooms where 26 to 55 per cent of the students are Negroes.

3. White students in predominantly Negro classrooms will obtain significantly lower mean gains in self-concept than will the white students in classrooms where 26 to 55 per cent of the students are Negroes.

4. Changes by the integrated white subjects on a measure of self-concept will not be related to sex.

5. White students in integrated classrooms will indicate a higher mean gain in attitude toward Negroes as measured by the Purdue Master Attitude Scales than will the students in the all-white classrooms.

6. Students in all-white classrooms will obtain a significantly lower mean gain in attitude toward Negroes than will the white students in classrooms where 26 to 55 per cent of the students are Negroes.

7. White students in predominantly Negro classrooms will obtain a significantly lower mean gain in attitude than will the white students in classrooms where 26 to 55 per cent of the students are Negroes.

8. The change in a measure of attitude will not be related to sex.

9. The change in a measure of attitude by the white students toward Negroes will not be related to academic achievement.
10. White students in integrated classrooms will indicate significantly greater mean gains in academic achievement as measured by the Iowa Test of Basic Skills than will the students attending all-white schools.

11. Students in all-white classrooms will obtain significantly lower mean gains in academic achievement than will the white students in classrooms where 26 to 55 per cent of the students are Negroes.

12. White students in predominantly Negro classrooms will obtain significantly lower mean gains in academic achievement than will the white students in classrooms where 26 to 55 per cent of the students are Negroes.

13. Gains in academic achievement will not be related to sex.

Background and Significance of the Study

The expected benefits for white children in desegregated schools would begin with the 1954 Supreme Court Decision that racially segregated schools were unsatisfactory in view of the "equal protection" clause of the fourteenth amendment to the Constitution.

The section upon which the decision was made states:

All persons born or naturalized in the United States, and subject to the jurisdiction thereof, are citizens of the United States and of the state wherein they reside. No state shall make or enforce any law which shall abridge the privileges or immunities of citizens of the United States; nor shall any state deprive any person of life, liberty, or property without due process of law;
nor deny to any person within its jurisdiction the equal protection of the laws (9, p. 143).

Segregation deprives the minority group of equal protection by law. The decision was a culminating point in a long record of American social change; it affirmed the most basic doctrine in our country's social policy, equality of opportunity for all (10, p. 105). The decision aroused and made clear the views of both believers and those who preferred the segregated policy. No longer was it legal to practice and enforce separation of pupils on a basis of race.

Segregation is partly a private matter that cannot be completely eliminated by legislation alone. It persists in many areas of American life, particularly in the residential patterns of cities, North and South. Until recently de facto segregation was peculiar to the North because of the existing segregation laws. Powledge (17, p. 1) found that de facto segregation exists, mainly, because of housing discrimination, and segregation contributes to further housing discrimination. When ways of integrating housing are discussed, many real estate groups and property owners insist that this can be accomplished only when the employment factor has been thoroughly integrated. When the minority groups get better jobs, they will be able to buy better property. There is ample evidence that in the urban ghettos, segregated education is inferior education, in terms of the skills the student may be expected
to develop (17, p. 2). The public schools can help all underprivileged people improve their occupations.

Official opposition has placed segregationists on the defensive. "Where segregation exists, it is frequently denied or excused, indicating that it is in retreat" (2, p. 532). Now that segregation is prohibited, the schools may help dissolve the private prejudices of many people.

Both the psychological and sociological findings seem to indicate that the cure for prejudices and discriminations may be found in two institutions. The first is in laws regulating practices of discrimination and in the administrative measures which are taken by public authorities to insure equal treatment. The second institution is education (10, p. 187). Education in our public schools is the heart of democracy and American leadership. Education is the chief unifying experience of a nation of diverse people because it is more personal than the words delivered by the mass communication media.

Segregation complicates the overcoming of racial stereotypes. In middle-class schools, it may often cause the children to develop a sense of innate superiority which is unjustified and unhealthy (8, p. 2). It should be recognized that the schools are an integral part of our society, that the schools can teach democracy, and that the schools have a responsibility for promoting and advancing the welfare and
the ideals of a people committed to the democratic way of life (16, p. 69).

Critics of desegregation have been loud in their statements that in desegregated schools the advanced student will be held back by the retarded student, the gifted by the less gifted, and the white by the Negro. Yet, as far as can be determined from incomplete surveys, segregation of the white child is a disadvantage to that child (21, p. 38).

Witmer and Kotinsky suggest that special stresses are created for individuals by the discrepancy between democratic teachings with respect to equality and the practice of enforced segregation (22, p. 139). White children are deprived of something of value when they grow up in isolation from children of other races; their self-esteem and assurance may rest in part upon false notions of racial superiority; they are not prepared by the schools to participate fully in a world filled with human diversity. The Mid-Century White House Conference on Children and Youth (18) discovered that prejudice and discrimination are harmful to the development of healthy personality in all children, and hence to the welfare of the whole society.

School desegregation can enable Negro and white students to learn and live in harmony, but desegregation also has the potential to drive people further apart and raise resistances. The outcome depends upon the tactics the school systems
utilize to obtain the best from student, teacher, and community resources (5, p. 4).

Comparable studies, utilizing a procedure which provides for the securing of test retest data on an experimental and a control group in the elementary school to determine the effects of integration on white children, are not available. According to Harold Howe, Commissioner of Education in 1968, "there has been no broadscale attempt to document the effects of desegregation on attitudes, skills, human values and the like. . . . We have learned that quality desegregated education can be attained" (13, p. 21). There needs to be a determination about what happens in specific areas to white students after a school has been integrated. This study determined the effects of classroom integration on the self-concepts, racial attitudes, and academic progress of white students in elementary schools.

Most studies have been descriptive only. The studies have provided very meager evidence pertaining to the effects, immediate or lengthy, of integration on white students. This study differs from preceding studies in at least one of the following respects:

1. It compares changes in integrated white students with changes of matched subjects in non-integrated schools.
2. Test retest data was collected after an interval of one school year.
3. Only integrated white students are included in one of the test group sections.

4. It focuses on white elementary school children whose attitudes and academic performances are less likely to be fixed or patterned.

Definition of Terms

For the purposes of this study the following definitions have been formulated:

1. **Integrated Schools**—schools in which the Negro enrollment exceeds 5 per cent of the membership and does not exceed 95 per cent of the enrollment.

2. **Desegregated Schools**—means the same, in this study, as integrated schools.

3. **Segregated Schools**—schools in which the Negro or white membership exceeds 95 per cent of the total enrollment.

4. **Attitudes**—a state of mental and emotional readiness to react to situations, persons, or things in harmony with a consistent pattern or response.

5. **Racial Attitudes**—the attitudes expressed by white persons for Negroes or the attitudes expressed by Negroes for white people; attitudes expressed toward other minority groups are not involved in this study.

6. **Self-Concept**—those parts of the phenomenal field which the individual has differentiated as relatively stable and definite parts or characteristics of himself. One's
feelings about what he conceives himself to be; emphasis is placed upon the person as an object of his own self-knowledge.

Limitations

The study was restricted to three variables: self-concept, racial attitudes, and academic achievement.

The time factor was a limitation. Long range effects may not be determined in a nine-month period of integration.

The grade level of the participants was restricted to the upper-elementary school grades.

Basic Assumptions

It was assumed that the subjects responded honestly to the instruments used to measure self-concept, racial attitudes, and academic achievement.

The use of three types of classroom subjects negated the effect of any single instructor upon a change in self-concept, racial attitudes, or academic achievement.

It was further assumed that the effects of maturation would be the same in all three types of classrooms.

Procedures for Collecting Data

The general procedure used in this study was to measure the changes of a group of white students on three variables before and after a period of one school year of integration and compare these changes with those of an equated group of white students who were not integrated. The variables
measured were self-concept, racial attitudes, and academic achievement.

A sample of ninety upper-elementary school white students enrolling in various integrated schools in similar socio-economic areas comprised one group. Students were selected from classrooms of three varying proportions of integration: thirty white students from classrooms whose membership is less than 25 per cent Negroes; thirty white students from classrooms whose membership is more than 25 per cent Negroes but less than 56 per cent Negroes; thirty white students from classrooms whose membership exceeds 75 per cent Negroes.

A group of ninety white students from the same school district attending all white schools were equated with the first group on the basis of intelligence quotients, sex, grade level, and family socio-economic level.

The base from which the samples were drawn was broad to insure that teacher attitudes as a variable were held to a minimum. There were at least six classrooms represented in each group of children.

The socio-economic area of the schools and the pupils was determined by an examination of the school registration forms. When possible, North-Hatt Occupational Status Ranks (19, pp. 114-117) were assigned to the pupils on the basis of the parents' occupation. The socio-economic area of the schools was also determined by an examination of relative federal census data; when possible, pupils in different
groups were matched by a determination of the elementary schools listed as Title I Schools. Finally, the school district's research department furnished a list of schools whose socio-economic areas matched the selected experimental schools.

It was assumed that only two large minority groups would be present in the Caucasian classroom, Negroes and Latin Americans. The Latin Americans were excluded from this study by a determination of their surname.

Scores obtained through the administration of the Kuhlmann-Anderson Mental Ability Test, Seventh Edition, or the Science Research Associates Primary Mental Abilities Test were used for equating intelligence quotients.

Anastasi (3, pp. 348-349) summarizes that the SRA Primary Mental Abilities Test is among the best known examples of multiple test batteries for general use. With regard to content, the PMA Test at the primary level is very similar to most group intelligence tests.

Milholland, when reviewing the Science Research Associates Primary Mental Abilities Test (14, pp. 780-781), questions the utility of the sub-tests for diagnostic purposes; he does report a median validity coefficient of .60 for predicting elementary subject grades. Total score single grade reliability coefficients go from .84 to .94, and the total score reliability is satisfactory. Only the total scores
will be used in this study, and they will be used for matching, not diagnostic, purposes.

Cronbach (6, p. 220) states that the Kuhlmann-Anderson Tests measure substantially the same thing as the Stanford-Binet; when errors of measurement are reduced by averaging three trials of each test, the two tests correlate almost perfectly.

Davis (7, p. 467) relates that it appears reasonable to conclude that the Kuhlmann-Anderson Tests measure ability to succeed in school as well as any other tests of their type.

The Iowa Test of Basic Skills was administered to both groups at the beginning and at the end of the school year to measure academic growth in terms of grade equivalents. An examination was made of the differences in changes in selected sub-tests between the two groups. The sub-tests that were examined are the mathematics, vocabulary, and language sections.

Each sub-test contains sections of increasing difficulty. Pupils in each grade take only those sections appropriate in difficulty for them. All of the sections require use of skills in meaningful context.

Herrick points out (12, pp. 16-17) that curricular validity is a major strength because of the careful definition of skills prior to construction and emphasis on item analysis, and that the normative group is as representative of the
general school population as that of any standardized achievement battery.

Cronbach (6, p. 383) summarizes that the test yields scores on vocabulary, reading, arithmetic, language, and work-study skills; each section has a reliability of .90 or higher.

The California Test of Personality, Part I was administered to both groups at the beginning and at the end of the school year to obtain a before and after measure of self-concept. Part I purports to measure "feelings about oneself"; Part II measures "social adjustment." Only Part I will be used in this study. This section gives a measure of: self-reliance, sense of personal worth, sense of personal freedom, feeling of belonging, freedom from withdrawing tendencies, and freedom from nervous symptoms (1, p. 454).

Because the items on each sub-test are few, only the total scores for Part I will be used.

Anastasi (3, pp. 495-496) signifies that the California Test of Personality relies primarily upon content validation. In the type of scores obtained and the proposed interpretations of such scores, the test resembles empirically developed personality tests.

Sims (20, p. 39) indicates that the reliability for the two main components is acceptable, that the normative sample is quite representative, and concludes that the California Test of Personality is among the better personality tests.
The Purdue Master Attitude Scale (D), a scale for measuring attitudes toward any defined group, was administered to both groups at the beginning and at the end of the school year to obtain a before and after measure of the subjects' attitudes toward Negroes.

Campbell stated in 1953 (4, p. 46) that the Purdue Master Attitude Scales were the only social attitude scales published since the Thurstone scales went out of print and that most researchers were duplicating or devising their own scales. As opposed to specific attitude scales, Campbell defended the use of generalized scales contending that items on most of the specific scales are so similar to those found on generalized scales that they could be the basis of the latter.

The authors defend the validity of their scale on the basis of "obvious face validity" and the results of numerous studies cited in the manual which differentiate among attitudes known to exist among various groups.

Procedures for Analysis of Data

The research hypotheses were evaluated on the basis of an appropriate statistical treatment of the data compiled from the test retest procedure for all subjects on the variables: achievement, self-concept, and racial attitudes.

Changes in the integrated and segregated students' scores, from initial-test to retest, provided a basis for
the statistical comparison of mean differences. The null hypothesis, stating that there was no significant difference between the means, was tested; the magnitude of the mean changes was determined. An appropriate difference-of-the-means-test as described by Guilford (11, pp. 173-181) was applied. In instances where means of more than two groups were to be compared, a one-way-analysis-of-variance was applied as described by Guilford (11, pp. 268-274) followed by, when needed, an appropriate difference-of-the-means-test. The relationship of attitude and achievement was determined by a Pearson Product Moment Correlation (11, pp. 95-98).

The decision as to the level of significance below which the null hypothesis would be rejected was arbitrarily set at the .05 level. When this level of confidence was obtained, the relevant null hypothesis that the samples were drawn from identical groups was rejected, and it was concluded that the students do differ on the variable in question.

All hypotheses dealing with a comparison of the total two groups were tested through the application of a difference-of-the-means-test for large, independent samples.

The hypotheses dealing with differences between changes of boys and girls in the experimental group were tested through the application of a one-way-analysis-of-variance-test and, when needed, by a difference-of-the-means-test for small, independent samples.
All hypotheses dealing with differences among the experimental subjects when grouped according to the proportion of classroom integration were tested through an application of a one-way-analysis-of-variance and, when needed, by a difference-of-the-means-test for small, independent samples.

The hypothesis dealing with the relationship of changes in attitude to the changes in achievement was tested through the application of a Pearson Product Moment Correlation formula.
CHAPTER BIBLIOGRAPHY


CHAPTER II

A REVIEW OF RELATED LITERATURE AND RESEARCH

Introduction

Changing racial attitudes on a wide scale is one of the most significant and important social-psychological problems of our society; this problem is primarily concerned with changing attitudes of white people toward the Negro population, though it touches on other minority populations as well. People of minority groups are pressing for complete desegregation in all areas. Civil rights problems cannot be solved in the school alone. But society does look to the school as one likely place where something significant can be accomplished.

As a general rule, integration begins to be a reality when children are mutually involved in attaining an education and are in frequent association with each other. The contact provides the children with an opportunity to measure and evaluate their mutual experiences. There have been some statements based on empirical evidence which indicate that the attitudes of white children may be favorably changed by direct experience and association (23, p. 148).

Educational and psychological literature concerning the effects of integration on white children is almost non-existent. This chapter presents information from various
sources concerning the nature and acquisition of attitudes, self-concept, and academic achievement of integrated white children.

Attitudes

Prejudice is indicated by feeling or expressing hostile attitudes toward specific segments within a society (20, p. 68). An attitude is defined by some psychologists as a set of emotionally-toned ideas (21, p. 447). The ideas create a predisposition to react in a consistent way toward a person or object. A broader definition of attitudes is presented by Cronbach (8, p. 326) when he states that attitudes are the meanings humans associate with certain objects or ideas and which influence their acceptance of them. Sorenson (38, p. 349) maintains that an attitude is a particular feeling about something which involves a tendency to behave in a certain way in situations involving a person, idea, or an object. An attitude is partially rational, partially emotional, and is acquired; it is not inherent in an individual. Good (13, p. 48) indicates that an attitude is a state of mental and emotional readiness to react to situations, persons, or things in harmony with a consistent pattern of response. When applying the preceding interpretations, an attitude may be considered as a predisposition to react positively or negatively toward a person, object, or idea. Predisposition implies that a choice is possible. That choice is affected,
to some extent, by the emotions and information available from which the choice may be made or by the mental processing of that information.

Attitudes have four dimensions: intensity, extensity, duration, and direction (37, p. 330). Each of these aspects has an important influence upon a child's behavior.

The intensity of an attitude is determined by the extent to which it motivates an individual's behavior. The limits of intensity can be determined by the nature of the barriers required to inhibit a response (37, p. 330). Individuals may have similar attitudes regarding ideas, objects, or persons, but the degree to which they are held may be quite different. Cantril (4) studied the attitudes of white people toward opportunities for Negroes and discrimination against them. It was found that many people endorsed a statement favoring more severe discrimination than was practiced. The anti-Negro attitudes were considerably stronger and more intense than those attitudes held by the majority of the group who favored equal opportunities. The attitudes favorable to Negroes were less strongly held and less intense than the attitudes held by those who were unfavorable toward Negroes.

Extensity is observed in the broad survey of the patterns of attitudes within an individual. Some attitudes appear to have broad and pervading influences (37, p. 331). Hartley (16) found that people who were prejudiced against Jews were also prejudiced against Negroes, Catholics, and other "foreign"
groups. There may be a generalized attitude developed by many people toward any "foreign" group.

The formation and, consequently, the direction of attitudes develop as a part of the learning situation in terms of the way the student views the situation and interprets the response. The attitudes of a child's parents are important factors in the creation of his attitudes. Family attitudes constitute the primary basis for a student's different expectations about classroom experience with Negroes (4, p. 4).

Radke, Trager, and Davis (31) found stereotyping and rejecting of other groups of humans, such as Negroes, among young children in the kindergarten, first, and second grades. The authors believe that the young children acquired the beliefs of their parents through reinforcement, imitation, and punishment. Harris, Gough, and Martin (26, pp. 314-315) found that mothers of prejudiced children favor more authoritarian training patterns; they obtained prompt and unquestioning obedience from their children. The authoritarian firmly believes there is only one condition of rightness and all other conditions and responses are viewed with suspicion. Discrimination emerges from a pattern of authoritarianism (20, p. 73).

Skinner (37, p. 331) considers duration an important aspect of attitudes. Attitudes may endure for a short or a long time when they are not reinforced by experiences. In general, it can be stated that an attitude endures as long as it promotes the goal objectives and creates a feeling of
satisfaction within the individual. Likert (22) found that white people displayed a constant amount of favor or disfavor toward the rights of the Negro regardless of the kinds of questions that were asked. The changing of attitudes requires a child to see things in a new way (21, p. 464). Attitudes are usually stable and require a reason for change.

According to Lee and Lee (21), one important source of attitudes is the "taking over" of attitudes from others. The child is inclined to adopt attitudes from those he likes or respects. It is very likely that friends and peers influence a child's attitude toward Negroes. Sartain (35) found a positive relationship between a child's attitudes and the perceived attitudes of his classmates.

One of the remarkable and encouraging aspects of integration is that a white pupil may change his attitude concerning a Negro from antagonism to tolerance and benevolence (1, p. 106). Contact and association of white children with Negroes may lead to more favorable attitudes on the part of white children. Lombardi (24) provided a test-retest study of white high school students' attitudes regarding Negroes in an integrated school. Changes in attitudes, when compared with those of a control group in a segregated school, were not found to be significant. Prothro (30) has indicated that attitudes toward national groups are changed as a result of personal contacts with members of these groups. The knowledge acquired by personal contact or in a personal experience
context was interpreted to have a more important influence on attitudes than information that is abstractly presented.

By the time a child leaves the elementary school he has a full complement of social attitudes absorbed from his family, his teachers, his peer group, and his contact with the world (29, pp. 32-34). One of the functions of education is the modification of certain existing negative attitudes and the creation of new ones that are positive and enduring (37, p. 331). This study identifies some of the effects of integration on young white children in our public schools.

Academic Achievement

Amid all the social, economic, and political change in our lives there is placed an inevitable strain on values. The values of a culture are those things which people accept as worth striving to obtain, those norms which give direction to behavior as a choice is contemplated (39, p. 46). Values are important to the determination of society to reduce cultural alienation for minorities and to bring them into an equal place in American society. One value accepted by both the Caucasian and the Negro as being of primary importance is academic achievement. One of the most persistent ideas concerning school integration is that it will cause academic achievement to suffer (40, p. 38).

The quality of learning which takes place is a direct result of the kind of experiences in which the pupils
participate. Most of the literature on school desegregation states that under certain psychological and social conditions, desegregation will improve learning (10, p. 61). The thesis is that increased inter-group exposure will increase academic achievement as well as social learning; the psychological and social conditions required for effective learning are: all groups of children should be welcomed equally, perceived threats should be eliminated, and modes of conflict should be removed. A six-year study of the results of bussing Negro children to predominantly white, middle-class schools in White Plains, New York, shows that the white children are doing as well and sometimes better academically than comparable groups in all-white schools before integration (2, p. 109). Hansen (15) indicates that integration has not apparently retarded the advancement of high ability students, Negro or white; educational standards in the District of Columbia's schools, when examined in relation to the students' preparation and ability for learning, are high. Vredevoe (43, p. 51) relates that a segregated school does not offer the opportunities for intellectual stimulation, motivation, and social contacts needed for the best educational experiences.

The feeling of accomplishment is especially important to the classroom student. The successful learner, encouraged by the approval of his group, is motivated to improve and to continue practice until he perfects his skills (9, p. 144). Students in an integrated classroom need to have common
experiences and backgrounds; pupils need to reinforce their peer's learning endeavors. The social class of a student's classmates, as measured by economic circumstances and educational background of his family, strongly influences his achievement (42, p. 287).

The achievement of children is affected by their parents. Family experiences which encourage the development of a desire to learn and achieve better enable a child to become educated. Rosen and D'Andrade found that parents of high achievers tended to show more involvement and appeared to take more pleasure in the problem-solving experiments of their sons (26, p. 575). Crandall, Katkovsky, and Preston report that in a free play situation children who showed an intense interest in intellectual activities had parents who encouraged intellectual behavior. Coleman (28, p. 38) writes that if a pupil from a home which is effectively supportive of education is placed in a school where most pupils do not come from such homes, his achievement will be similar to that of the pupils attending schools composed of others like himself. The integrating of races should not harm the white child academically; there is a good possibility that his achievement may not be harmed by others whose home environment is not as satisfactory as his.

The term "disadvantaged" has gained in usage as a label for those children of the poor who suffer various social, intellectual, emotional, and physical restrictions (12, p. 13).
It is generally an accepted fact that impoverishment and deprivation of experience may retard intellectual development, and that enrichment of experience and the development of achievement motivation may accelerate mental growth. Upon entry to school the disadvantaged child is retarded in the skills prerequisite to successful school achievement. The ordinary school environment fails to compensate for this initial retardation, resulting in cumulative deficiencies as the child progresses (12, p. 4). The mixing of the races, integration, is one of the most important factors to be considered when attempting to increase the academic achievement levels of disadvantaged pupils; the mixing factor is more important than good teachers (7, p. 38).

Tests of academic achievement administered to pupils in Louisville, Austin, and Baltimore, several years after integration, have indicated in each instance gains in scholastic achievement (41, p. 539). Buchheimer (3, p. 61) shows that the achievement levels of both Negro and white children are rising, and both groups have gained in academic achievement at approximately the same rate since integration. The studies indicate that integration need not adversely affect the scholastic achievement of white pupils; integration may actually be beneficial to the Caucasian in the elementary school. This study seeks to determine the effects of integration on the academic achievement of white students in the elementary schools.
Self-Concept

Every person is a product of his experiences. The identification by each child of his own changing but unique self is a lifelong process. A self-concept is developed slowly and with difficulty by each individual. The self is frequently thought of as being extremely flexible and as constantly altering, usually in response to environmental pressures that lead the self into setting up goals. Those experiences to which one relates most readily, those experiences with which he identifies, have the most impact upon one's self-concept (32, p. 90). Social motivations are directed toward objectives that will either enhance the self, allowing it to develop further, or will defend it from a situation that is sensed as dangerous to its stability or growth. Throughout life, an individual keeps on striving toward one goal after another and trying to cope with experiences so that a coherent identity may be established. The sense of identity grows, develops, and changes as an individual passes from one age level to another; it forms drives and responses into patterns that are satisfactory for its growth (6, p. 271).

The term "self-concept" is often used to express an individual's pattern of reaction toward himself and his environment. Self-concept is a set of inferences a person makes about himself on the basis of his experiences (39, p. 50). Self-concept may be thought of as a set of expectancies, plus
an evaluation of the areas or behaviors with reference to which these expectancies are held (27, p. 255). Self-concept is that portion of the phenomenal field, the total environment, which the individual has differentiated as relatively stable and a definite part or characteristic of himself (13, p. 493). Self-concept is the way an individual views and feels about himself (32, p. 464).

Carl Rogers has developed an idea about self-concept called the concept of the phenomenal self (34, p. 396). He maintains that through experiences and interaction with the environment, each person forms a perception of the self and attaches a value to that perception. Each person assimilates his experiences in a way that is consistent with a self-image which may not always agree with reality. Experiences that are encountered which are consistent with the self-image will be easily accepted. Those that would cause the individual to make a great adjustment will be rejected or altered (19, p. 439). The self-concept is a unit made up of numerous facets in dynamic equilibrium (27, p. 258). The equilibrium, whether it results in a positive or negative self-concept, is believed to be essential to the adjustment of the individual.

There are many discrepancies between the perceived self and the ideal self. There is a gap between what is and what might be in a child who is seeking and striving to realize his potential; this discrepancy ceases to be a mark of
healthy striving and becomes a mark of disorder when a child reaches for the impossible. The greater the discrepancy in the perceived self and the ideal self, the greater the personality problem (19, p. 438).

There appears to be a relationship between self-concept and personality problems. Coleman (7, p. 35) reports that poor self-concept results in lack of belief in an individual's ability to control his own destiny. Ellsworth (11) writes that unsatisfactory behavior is related to frustration and the need for a positive self-concept. Witmer and Kotinsky (45, p. 139) relate that segregation of a minority group causes a lowering of self-esteem.

Jersild believes self-awareness begins some time during the first year of life (17, p. 165). The self-concept is learned and has a very small beginning. A child begins to see in himself a certain degree of social ability, physical skill, set of attitudes, or intellectual ability.

Some empirical studies have indicated there is a considerable relationship between a child's self-concept and the way he is regarded by his parents (17, p. 172). It is axiomatic that a child who is rejected or not approved of by his parents will find it very difficult to have a favorable self-concept of himself. The impact the parents have on the child depends not only on what the parents actually feel, think, or do, but also on what the child's perception is of what they feel, think, or do (17, p. 176).
The community and the social status of the child in a society affect his self-concept.

... In the social domain, Clark, Deutsch, Smilansky, Marans, and Wortis among others, point out the devastating effects of social deprivation on building self-esteem. ... If the larger society conceives of the child as not worthwhile and demonstrates consistently to him that it so judges him, it is difficult for the child to value himself. Children in the ghetto, children classified as slow learners, children who for a variety of reasons are told in these early years that they are not quite good enough or smart enough or handsome enough tend to devalue themselves and thus set the stage for continuously poorer levels of performance than might otherwise be their lot (14, p. 378).

Tait's study of the effect of social segregation on children of a minority group, presented at the Mid-Century White House Conference on Children and Youth in Washington, D. C., in 1950, stated that children of minority groups had: poor social adjustment, feelings of inferiority, and emotional instability (45, p. 140).

The young child comes to school with a developing self-concept already a part of his personal beliefs. The beginning school experience undoubtedly is significant for the child; the public school provides new tests and experiences for his developing self-concept. Success or failure with any of the various tasks which the school may require affects the child's self-concept. The early school years may be crucial for the self-concept; the level of confidence in and esteem for one's self that is developed in the initial years through successful experiences appears to be predictive of behavior in later years (39, p. 51).
If, for example, the only contacts a white child has with Negroes is knowing them as maids, janitors, porters, and the like, communication is apt to stay at that level and never get as far as a personal discussion. In such circumstances, a single unpleasant experience can become the white's premise for antagonism toward all Negroes (25, p. 38).

Jessup, in a study conducted in New York City on an informal basis, states the central finding of her study showed that low achievement patterns among low status minority group children are noticeably reduced by attendance in an integrated school; this improvement appears to be the result of the more positive self-concept (18, p. 97). Children who are exposed to a socially heterogeneous situation are in a position to perceive individual differences within racial groups. White children may be able to compare themselves with actual individuals. The children are able to develop a personal identification and a more realistic sense of self-concept.

In general, children with a fairly accurate picture of themselves have a better adjustment and are less defensive than those whose self-concept does not coincide with the beliefs of others. The acceptance of one's self is related positively to tolerance and willingness to accept others (6, p. 274). This study attempts to determine the effects of integration on the self-concept of white children in the elementary schools.


CHAPTER III

DESIGN FOR STUDYING THE RELATIONSHIPS AMONG ATTITUDE, PERSONALITY, AND ACHIEVEMENT OF INTEGRATED WHITE STUDENTS

The general procedure of this study was to measure changes within a group of integrated white elementary school students on three variables, before and after one school year of classroom integration and compare the changes that occurred with those of a matched group of white students who attended all-white classrooms. The measured variables were self-concept, academic achievement, and racial attitudes.

In order to determine the relationship between changes in self-concept, academic achievement, and racial attitudes, measures of these characteristics were required. Three standardized tests were selected and administered to students enrolled in a large metropolitan school district. The collected information was then submitted to a computer for a statistical analysis. This chapter presents the details concerning the sampling procedures, matching procedures, procedures for the collection of data, and the statistical treatment of data.
Sampling Procedure

The schools participating in this study were located in the same school district, operated by the same school administration, used the same curriculum guides, used the same textbooks, and had approximately the same available resources. All of the elementary schools were very similar and typical of the other schools in the district except in the degree of integration.

All of the pupils enrolled in the fourth and fifth grades of the large, urban school district were considered as possible participants. The sixth grades were not considered since they are now a part of the middle school organization. Each integrated elementary school with a minimum enrollment of eight Negroes or eight Caucasian students was surveyed. Some of the integrated elementary schools were removed from consideration in this study because of the attendance of another ethnic minority group, Latin Americans. It was assumed that only two large minority groups would be present in the school classrooms, Negroes and Latin Americans. The Latin Americans were excluded from this study by a determination of their surname. Elementary schools were eliminated from consideration if their enrollment was 60 percent or more Latin American. One school was eliminated because its enrollment consisted almost entirely of pupils with parents in the United States Air Force. Thus, these pupils were from a segment of the population that was very transient.
Eleven elementary schools met the designated criteria and qualified as experimental schools. A total of thirty-five classrooms were eligible for participation in the study. The schools having classrooms with three or more Negroes or three or more white students were selected for participation in the experimental groups.

**TABLE I**

**SCHOOLS IN EACH OF THE EXPERIMENTAL GROUPS**

<table>
<thead>
<tr>
<th>Groups</th>
<th>Per Cent of Negro Classroom Enrollment</th>
<th>Schools in Each Group</th>
<th>Classrooms in Each Group</th>
</tr>
</thead>
<tbody>
<tr>
<td>Experimental Group I</td>
<td>5-24%</td>
<td>5</td>
<td>13</td>
</tr>
<tr>
<td>Experimental Group II</td>
<td>26-55%</td>
<td>2</td>
<td>8</td>
</tr>
<tr>
<td>Experimental Group III</td>
<td>76-95%</td>
<td>4</td>
<td>14</td>
</tr>
</tbody>
</table>

Each pupil in the qualifying classroom was listed and a random sample of fifty students, twenty-five boys and twenty-five girls, obtained for each of the three experimental groups:

1. Group I contained white students in classrooms composed of 5 to 24 per cent Negroes; the precise, utilized range was 10 to 24 per cent.

2. Group II contained white students in classrooms composed of 26 to 55 per cent Negroes; the precise, utilized range was 26 to 33 per cent.
3. Group III contained white students in classrooms composed of 76 to 95 per cent Negroes; the precise, utilized range was 76 to 93 per cent.

Matching Procedure

Six schools, with classrooms containing only Caucasian pupils, were selected as control schools. The control subjects' schools were selected on the basis of being de facto segregated schools and if they served elementary school districts comparable, in terms of socio-economic affluency, to the experimental subjects' schools.

The schools from which the experimental subjects were selected had been identified, by the cooperating school district's Research Department, as being in a low socio-economic area. The Research Department furnished a list of six comparable, predominantly white elementary schools to serve as mediums from which a control group could be obtained. Four of these schools and five of the schools attended by the experimental subjects were identified by the Director of Federal Programs as being qualified for Title I assistance. Pupils from these schools were matched with the experimental group subjects from the five schools specified as Title I schools. An examination of the occupation forms returned to the schools, as a part of the regular registration procedure, revealed that most of the students had parents whose occupations were non-skilled or semi-skilled. When possible, the
North-Hatt Scale, an occupational rating scale, was used to match the subjects. Occasionally, the registration form listed only where the parent worked; thus, a definite particular occupation was not always stated. The subjects were from one very similar, homogeneous socio-economic level.

The control group subjects were matched with the experimental group subjects on the basis of sex, grade level, intelligence quotients, and family socio-economic status. The number of matched pairs, a total of 300 students, was reduced during the school year by absences, withdrawals from school, transfers to other schools, loss of a matched partner, and by a random sample to make each experimental and control group contain an equal number of boys and girls. The very few students identified as having home environments varying greatly from the majority were omitted from this study to facilitate matching procedures. Of the 150 matched pairs who initially took all the pre-tests, 90 matched pairs, 180 pupils, were used in the statistical analysis. Each of the three experimental groups contained 30 students who were matched with 30 students from the control group.

Intelligence quotients for the fourth and fifth-grade pupils were procured from each student's permanent record folder. A school record of the tests, designating intelligence quotients, was maintained as a basic portion of the school testing program. Scores that were obtained through the administration of the Kuhlmann-Anderson Mental Ability
<table>
<thead>
<tr>
<th>Schools-Group I</th>
<th>Classroom</th>
<th>Grade</th>
<th>Caucasian Class Enrollment</th>
<th>Per Cent Negro Enrollment</th>
</tr>
</thead>
<tbody>
<tr>
<td>#1</td>
<td>#1</td>
<td>4th</td>
<td>17</td>
<td>17%</td>
</tr>
<tr>
<td></td>
<td>#2</td>
<td>4th</td>
<td>22</td>
<td>12%</td>
</tr>
<tr>
<td></td>
<td>#3</td>
<td>5th</td>
<td>24</td>
<td>11%</td>
</tr>
<tr>
<td></td>
<td>#4</td>
<td>5th</td>
<td>23</td>
<td>12%</td>
</tr>
<tr>
<td>#2</td>
<td>#5</td>
<td>4th</td>
<td>20</td>
<td>23%</td>
</tr>
<tr>
<td></td>
<td>#6</td>
<td>4th</td>
<td>23</td>
<td>15%</td>
</tr>
<tr>
<td>#3</td>
<td>#7</td>
<td>4th</td>
<td>30</td>
<td>10%</td>
</tr>
<tr>
<td>#4</td>
<td>#8</td>
<td>5th</td>
<td>20</td>
<td>17%</td>
</tr>
<tr>
<td>#5</td>
<td>#9</td>
<td>4th</td>
<td>24</td>
<td>20%</td>
</tr>
<tr>
<td></td>
<td>#10</td>
<td>4th</td>
<td>22</td>
<td>21%</td>
</tr>
<tr>
<td></td>
<td>#11</td>
<td>4th</td>
<td>21</td>
<td>22%</td>
</tr>
<tr>
<td></td>
<td>#12</td>
<td>5th</td>
<td>20</td>
<td>13%</td>
</tr>
<tr>
<td></td>
<td>#13</td>
<td>5th</td>
<td>19</td>
<td>24%</td>
</tr>
<tr>
<td>Schools-Group II</td>
<td>#6</td>
<td>5th</td>
<td>19</td>
<td>27%</td>
</tr>
<tr>
<td></td>
<td>#14</td>
<td>5th</td>
<td>19</td>
<td>32%</td>
</tr>
<tr>
<td></td>
<td>#15</td>
<td>5th</td>
<td>19</td>
<td>29%</td>
</tr>
<tr>
<td>#7</td>
<td>#16</td>
<td>5th</td>
<td>22</td>
<td>28%</td>
</tr>
<tr>
<td></td>
<td>#17</td>
<td>5th</td>
<td>23</td>
<td>31%</td>
</tr>
<tr>
<td></td>
<td>#18</td>
<td>4th</td>
<td>20</td>
<td>26%</td>
</tr>
<tr>
<td></td>
<td>#19</td>
<td>4th</td>
<td>23</td>
<td>30%</td>
</tr>
<tr>
<td></td>
<td>#20</td>
<td>4th</td>
<td>21</td>
<td>33%</td>
</tr>
<tr>
<td></td>
<td>#21</td>
<td>4th</td>
<td>18</td>
<td>33%</td>
</tr>
<tr>
<td>Schools-Group III</td>
<td>#8</td>
<td>5th</td>
<td>3</td>
<td>93%</td>
</tr>
<tr>
<td>#9</td>
<td>#22</td>
<td>5th</td>
<td>5</td>
<td>76%</td>
</tr>
<tr>
<td></td>
<td>#23</td>
<td>5th</td>
<td>4</td>
<td>77%</td>
</tr>
<tr>
<td></td>
<td>#24</td>
<td>5th</td>
<td>5</td>
<td>78%</td>
</tr>
<tr>
<td></td>
<td>#25</td>
<td>4th</td>
<td>3</td>
<td>77%</td>
</tr>
<tr>
<td></td>
<td>#26</td>
<td>4th</td>
<td>2</td>
<td>79%</td>
</tr>
<tr>
<td>#10</td>
<td>#27</td>
<td>4th</td>
<td>3</td>
<td>92%</td>
</tr>
<tr>
<td></td>
<td>#28</td>
<td>4th</td>
<td>4</td>
<td>77%</td>
</tr>
<tr>
<td></td>
<td>#29</td>
<td>4th</td>
<td>3</td>
<td>91%</td>
</tr>
<tr>
<td>#11</td>
<td>#30</td>
<td>4th</td>
<td>2</td>
<td>89%</td>
</tr>
<tr>
<td></td>
<td>#31</td>
<td>4th</td>
<td>4</td>
<td>84%</td>
</tr>
<tr>
<td></td>
<td>#32</td>
<td>5th</td>
<td>3</td>
<td>87%</td>
</tr>
<tr>
<td></td>
<td>#33</td>
<td>5th</td>
<td>4</td>
<td>83%</td>
</tr>
<tr>
<td></td>
<td>#34</td>
<td>5th</td>
<td>5</td>
<td>79%</td>
</tr>
<tr>
<td></td>
<td>#35</td>
<td>5th</td>
<td>5</td>
<td>79%</td>
</tr>
</tbody>
</table>
Primary Mental Abilities Test, one of which was previously given to the children in grades three or four, were used for matching intelligence quotients. Each child in the experimental group was matched with a child in the control group whose score on the test was the same or did not vary more than five points. Only the total scores were considered pertinent because of the studies which have stated that intelligence quotients obtained during middle childhood are consistently valid and stable (10, p. 539).

Fifth-grade boys in the experimental group were matched with fifth-grade boys from the control group. Fifth-grade girls in the experimental group were matched with fifth-grade girls in the control group. The same standard procedure was adopted when matching fourth-grade students.

Procedure for Collecting Data

The data for this study were collected in a series of scheduled testing sessions. The sessions were similar in the following respects: each session was held in an assigned room provided by the participating schools; all of the pupils in each school were tested at the same time; the instructions to the examiner in the test manuals were strictly observed; the instruments were administered in a sequential order: 1. the Purdue Master Attitude Scale (D), 2. the California Test of Personality, Part I, and 3. the Iowa Test of Basic Skills.
The Purdue Master Attitude Scale (D), a scale for measuring attitudes toward any defined group, was administered to both the experimental and control groups at the beginning and at the end of the school year to obtain a before and after measure of the pupils' attitude toward Negroes. Form A was administered in October, 1969, and Form B was administered in May, 1970. The students completed the test in one pre-scheduled testing session. Each test question was read orally to the pupils. Difficult words contained within each question were explained. All the explanations were simple, direct, pertinent statements.

Campbell (3, p. 46) concludes that the Purdue Master Attitude Scales are the only social attitude scales published since the Thurstone scales. Campbell promotes the use of generalized scales stating that items on most specific scales are so similar to those found on generalized scales that they could be the basis for the latter.

Freeman (5, p. 604) decided that one has little choice when deciding upon a method of attitude testing, so far as reliability is concerned. The two methods of scoring, Thurstone's and Likert's, are very highly correlated; the correlation is about .90 when the same statements and responses are scored both ways.

Hancock's experimental study (8, pp. 142-151) demonstrated that a small number of items chosen to include the
The total range of scale values does not considerably lower the reliability of the instrument as compared with full length scales.

The authors defended the validity of their scale on the basis of "obvious face validity" and upon the results of numerous studies cited in the manual which differentiate among the attitudes known to exist among various groups of people.

California Test of Personality, Part I

The California Test of Personality, Part I, Form AA was administered to the experimental and the control groups during October, 1969. Part I, Form BB was administered to both groups during May, 1970; thus, a before and after measure of self-concept was obtained. The same pre-determined directions were given to each group of students. If the pupils had difficulties reading and understanding the questions, a simple, pertinent explanation was submitted. The tests were administered during one testing session at each school in an assigned room within the school building.

Part I measures "feelings about oneself"; this section gives a measure of self-reliance, sense of personal worth, sense of personal freedom, feeling of belonging, freedom from withdrawing tendencies, and freedom from nervous symptoms. Because the items on each sub-test are limited, only the total scores for Part I were used. Ahmann (1, p. 456) states
that if a score is used, the total score would appear to be the wisest choice; its reliability and validity are superior to those of the sub-tests.

Anastasi (2, pp. 439-440) concludes that in the type of scores obtained and the proposed interpretations of such scores, the California Test of Personality resembles empirically developed personality traits. Content validation appears to be predominant. National norms are provided for evaluation. Internal consistency reliabilities are reasonably satisfactory for total scores and for the two subtotals.

Garrett (6, p. 167) relates that the reliability of the five batteries is quite high, .80-.94. Percentile norms are provided for each sub-test and for the battery as a whole. This inventory is a useful indication of a pupil's all-around adjustment.

Sims (13, p. 103) indicates that the reliability for the two main components is acceptable, that the normative sample is quite representative, and concludes that the test is among the better ones.

**Iowa Test of Basic Skills**

The Iowa Test of Basic Skills, Vocabulary, Language, and Mathematics sections, was administered to the experimental and control groups at the beginning of the school year, during the month of October, 1969, and at the end of the school year, during the month of May, 1970. Form 3 was used for the
pre-tests and was administered by the child’s regular teacher. Form 4 was used for the post-tests and was administered to the pupils by the researcher. The tests were administered to the students during one scheduled testing day. The same directions were imparted to each group. These tests were utilized to measure academic achievement. The different test sections were combined so that a composite score on every test for each individual was obtained; the scores were converted to grade equivalents. The pupils' academic growth was measured in terms of grade equivalent scores. This procedure permitted a statistical comparison of changes to be made.

The Iowa Test of Basic Skills is a multi-level test battery requiring about five hours to administer. The test yields scores on vocabulary, reading, arithmetic, language, and word-study skills each having a reliability of .90 or over (4, p. 383). Norms are based on carefully selected national samples for each grade early in the year, at midyear, and at the end of the year.

Mehrens (11, p. 163) recommends the test if one wishes to test primarily basic skills. The test reliabilities are quite high; they range from .70 to .93 for the sub-tests and from .84 to .96 for the five major tests. The composite reliabilities for the total test range from .97 to .98. Content validity was emphasized in the construction of the test, and the very thoroughness with which it was done is a major strength of the battery.
Nunnally (12, p. 416) states that the Iowa Test of Basic Skills is a very thorough battery of tests. The reliabilities of all sub-tests are good. Apparently the tests were carefully designed and constructed.

Herrick points out (9, p. 16) that curricular validity is a major strength because of the careful definition of skills prior to construction and emphasis on item analysis, and that the normative group is as representative of the general school population as that of any standardized achievement battery.

Treatment of Data

The data obtained from the administration of the three testing instruments were treated statistically in various ways to test the tenability of the research hypotheses. The differences in each subject's scores, from initial-test to retest on each variable self-concept, racial attitudes, and achievement, provided the basis for a statistical analysis of differences. When mean differences were obtained, the null hypothesis that states there was no difference between the means was set up for each relevant hypothesis and the level of significance was determined. An appropriate difference-of-the-means-test, described by Guilford (7, pp. 173-181) was applied. In instances where means of more than two groups were to be compared, a one-way-analysis-of-variance was applied (7, pp. 268-274) followed by, when
needed, an appropriate difference-of-the-means-test (7, pp. 173-181). The relationship of attitudes and achievement changes was resolved by utilizing a correlation test (7, pp. 55-98).

The decision as to the level of significance below which the null hypothesis can be rejected was arbitrarily set at the .05 level. When this level of confidence was obtained, the relevant null hypothesis that the samples were drawn from identical groups was rejected, and it was concluded that the students do differ on the variable in question.

The data obtained from the administration of the testing instruments were treated statistically to test the tenability of the hypotheses of this study. All statistical computations were made on the machines of the Computer Center at North Texas State University.

The significance of Research Hypotheses 1, 5, and 10, concerning a comparison of the complete experimental group with the complete control group, was determined by an application of a difference-of-the-means-test for large, independent samples. These hypotheses, when stated in the null hypothesis form, are:

Hypothesis 1: White students in integrated classrooms will not indicate a different mean gain in self-concept as measured by the California Test of Personality, Part I than that of the students attending all-white schools.
Hypothesis 5: White students in integrated classrooms will not indicate a different mean gain in attitude toward Negroes as measured by the Purdue Master Attitude Scales than that of the students attending all-white schools.

Hypothesis 10: White students in integrated classrooms will not indicate a different mean gain in academic achievement as measured by the Iowa Test of Basic Skills than that of the students attending all-white schools.

The significance of Research Hypothesis 4, 8, and 13, concerning changes that were related to sex differences made by integrated white students, was determined by an application of a one-way-analysis-of-variance-test and, when needed, by a difference-of-the-means-test for small, independent samples. These hypotheses, when stated in the null hypothesis form, are:

Hypothesis 4: There will be no differences between the mean gain of the boys and that of the girls in the experimental group on a measure of self-concept.

Hypothesis 8: There will be no difference between the mean gain of the boys and that of the girls in the experimental group on a measure of racial attitudes.

Hypothesis 13: There will be no difference between the mean gain of the boys and that of the girls in the experimental group on the measure of academic achievement.

The significance of Research Hypotheses 3, 7, and 12, concerning differences among the integrated white students
when grouped according to the proportion of classroom integration, was determined by an application of a one-way-analysis-of-variance and, when needed, by a difference-of-the-means-test for small, independent samples. These hypotheses, when stated in the null hypothesis form, are:

Hypothesis 3: White students in predominantly Negro classrooms will not obtain a different mean gain in self-concept than that of the white students in classrooms where 26 to 55 per cent of the students are Negroes.

Hypothesis 7: White students in predominantly Negro classrooms will not obtain a different mean gain in attitude toward Negroes than that of the white students in classrooms where 26 to 55 per cent of the students are Negroes.

Hypothesis 12: White students in predominantly Negro classrooms will not obtain a different mean gain in academic achievement than that of the white students in classrooms where 26 to 55 per cent of the students are Negroes.

The significance of Research Hypotheses, 2, 6, and 11, concerning a comparison of students in all-white classrooms with students in classrooms where 26 to 55 per cent of the students are Negroes, was determined by an application of a one-way-analysis-of-variance and, when needed, by the indicated difference-of-the-means-test for small groups. These hypotheses, when stated in the null hypothesis form, are:

Hypothesis 2: Students in all-white classrooms will not obtain a different mean gain in self-concept than that
of the white students in classrooms where 26 to 55 per cent of the students are Negroes.

Hypothesis 6: Students in all-white classrooms will not obtain a different mean gain in attitude toward Negroes than that of the white students in classrooms where 26 to 55 per cent of the students are Negroes.

Hypothesis 11: Students in all-white classrooms will not obtain a different mean gain in academic achievement than that of the white students in classrooms where 26 to 55 per cent of the students are Negroes.

The significance of Research Hypothesis 9, concerning the relationship of changes in racial attitudes to changes in academic achievement made by the integrated white students, was determined by an application of a Pearson Product Moment Correlation Test. This hypothesis, when stated in the null hypothesis form, is:

Hypothesis 9: There will be no difference between the mean gain made on a measure of attitude and in the mean gain made on a measure of academic achievement by the integrated white students.
CHAPTER BIBLIOGRAPHY


CHAPTER IV

PATTERNS OF CHANGE AMONG ATTITUDE, PERSONALITY, AND ACHIEVEMENT OF INTEGRATED WHITE STUDENTS

This study was concerned with discovering if the racial attitudes, academic growth, and personal ideas relating to the self-concept of white non-integrated students differed from that of white students attending integrated classrooms. Tests were administered at the beginning and at the end of the school year. The results of the tests given to the integrated students, experimental subjects, and non-integrated students, control subjects, were compared. The integrated and the non-integrated students were divided into matched sub-groups; the groups were matched according to sex, grade level, intelligence quotient, and economic background; the experimental group was divided into three groups according to the proportion of classroom integration and matched with the control subjects. The integrated and segregated sub-groups were divided into twelve groups when a comparison of male and female students was considered necessary. The changes in these groups and their sub-groups were compared by a statistical analysis utilizing "t" tests, correlations, and an analysis of variance. Statistical computations were performed at the North Texas State University Computer Center; a few additional computations were performed on a desk calculator.
The data for testing the tenability of the hypotheses of this study are presented in this chapter. The data that were secured as a result of the statistical analyses will be stated and its relation to the research hypotheses will be discussed.

Hypotheses Concerning Self-Concept

The main hypothesis related to changes in self-concept was to determine if the mean gains made by the integrated pupils, on equivalent forms of the California Test of Personality, Part I, were significantly greater than those made by the segregated pupils.

Hypothesis 1.--It was stated in Hypothesis 1 that the white students in integrated classrooms would indicate significantly greater mean gains in self-concept than would the students attending all-white schools. Table III shows that the segregated subjects increased their mean gains 2.83 more than the integrated subjects.

TABLE III

COMPARISON OF INTEGRATED AND SEGREGATED SUBJECTS ON THE CALIFORNIA TEST OF PERSONALITY

<table>
<thead>
<tr>
<th>Integrated Subjects' Mean Gain</th>
<th>Segregated Subjects' Mean Gain</th>
<th>Mean Gain Difference S-I</th>
<th>&quot;F&quot; Statistic</th>
<th>P</th>
<th>&quot;t&quot; Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.07</td>
<td>3.90</td>
<td>2.83</td>
<td>3.54</td>
<td>.06</td>
<td>-1.88</td>
</tr>
</tbody>
</table>
The research hypothesis was not supported by the data; therefore, the null hypothesis was accepted. The gain made by the segregated subjects was almost significant at the .05 level, \((F=3.0)\) and \((t=1.97)\); the segregated group qualified for the \(P=.10\) level of significance. Both groups made gains in self-concept, but the segregated subjects made the most improvement.

**Hypothesis 2.** It was stated in Hypothesis 2 that students in all-white classrooms would obtain significantly lower mean gains in self-concept than would the white students in classrooms where 26 to 55 per cent of the students were Negroes.

Hypothesis 2 was not supported by the data; therefore, the null hypothesis was accepted. The data pertaining to Hypothesis 2 are presented in Table IV. The table contains mean gains, "F" statistics, "P" scores of significance, and "t" scores; each of the integrated groups is compared with the three segregated groups.

The majority of the segregated students made larger mean gains in self-concept than did the integrated students. The "t" statistic achieved when an examination was made of the mean gains between pre-test and post-test scores showed that the segregated subjects in Group III made the only significant mean gains at the \(P=.05\) level of confidence.
### TABLE IV

**SUB-GROUP COMPARISON OF MEAN GAINS: EACH INTEGRATED GROUP COMPARED TO SEGREGATED GROUPS ON THE CALIFORNIA TEST OF PERSONALITY**

<table>
<thead>
<tr>
<th>Group I Negro Membership 5%-24%</th>
<th>Integrated Group N=30</th>
<th>Segregated Group I N=30</th>
<th>Segregated Group II N=30</th>
<th>Segregated Group III N=30</th>
<th>&quot;F&quot; Statistic</th>
<th>P</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mean Gain</td>
<td>3.57</td>
<td>3.30</td>
<td>2.07</td>
<td>6.33</td>
<td>1.03</td>
<td>.38</td>
</tr>
<tr>
<td>&quot;t&quot; Score</td>
<td>.10</td>
<td>.58</td>
<td>-1.07</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Group II Negro Membership 26%-55%</th>
<th>Integrated Group</th>
<th>Segregated Group I N=30</th>
<th>Segregated Group II N=30</th>
<th>Segregated Group III N=30</th>
<th>&quot;F&quot; Statistic</th>
<th>P</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mean Gain</td>
<td>1.30</td>
<td>3.30</td>
<td>2.07</td>
<td>6.33</td>
<td>1.44</td>
<td>.23</td>
</tr>
<tr>
<td>&quot;t&quot; Score</td>
<td>-.77</td>
<td>-.30</td>
<td>-1.95</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Group III Negro Membership 76%-95%</th>
<th>Integrated Group</th>
<th>Segregated Group I N=30</th>
<th>Segregated Group II N=30</th>
<th>Segregated Group III N=30</th>
<th>&quot;F&quot; Statistic</th>
<th>P</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mean Gain</td>
<td>-1.67</td>
<td>3.30</td>
<td>2.07</td>
<td>6.33</td>
<td>*2.99</td>
<td>*.03</td>
</tr>
<tr>
<td>&quot;t&quot; Score</td>
<td>-1.92</td>
<td>-1.44</td>
<td>*-3.09</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*2.68-"F" and 2.00 "t" required for significance at P=.05*
The only integrated group that obtained larger mean gains than the segregated groups was Group I, Negro membership 5 to 24 per cent. Integrated Group I made greater mean gains than did segregated, matched Group I and segregated Group II. The integrated pupils in experimental Group II, Negro membership 26 to 55 per cent, and Group III, Negro membership 76 to 95 per cent, made lower mean gains than did the segregated students; experimental Group III was the only group obtaining a mean loss in self-concept.

Hypothesis 3.--It was stated in Hypothesis 3 that white students in predominantly Negro classrooms would obtain significantly lower mean gains in self-concept than would the white students in classrooms where 26 to 55 per cent of the students are Negroes.

The research hypothesis was not supported by the data; therefore, the null hypothesis was accepted. Table V contains the data pertaining to Hypothesis 3; statistical comparisons of the three sub-groups within the one large integrated group are presented. The table permits comparisons on the California Test of Personality by presenting pre-test means, post-test means, and mean gains. The significance of the self-concept changes was determined by an analysis of variance resulting in an "F" value and a "P" level of confidence.
TABLE V

MEAN GAINS OF INTEGRATED SUBJECTS BY PROPORTION OF CLASSROOM INTEGRATION ON THE CALIFORNIA TEST OF PERSONALITY

<table>
<thead>
<tr>
<th>Group I</th>
<th>Group II</th>
<th>Group III</th>
</tr>
</thead>
<tbody>
<tr>
<td>Negro Membership</td>
<td>Negro Membership</td>
<td>Negro Membership</td>
</tr>
<tr>
<td>5%-24%</td>
<td>26%-55%</td>
<td>76%-95%</td>
</tr>
<tr>
<td>N=30</td>
<td>N=30</td>
<td>N=30</td>
</tr>
</tbody>
</table>

Pre-Test Mean | Post-Test Mean | Gain | Pre-Test Mean | Post-Test Mean | Gain | Pre-Test Mean | Post-Test Mean | Gain |
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>41.30</td>
<td>44.87</td>
<td>3.57</td>
<td>43.80</td>
<td>45.10</td>
<td>1.30</td>
<td>38.23</td>
<td>36.56</td>
<td>-1.67</td>
</tr>
</tbody>
</table>

"F" | P
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>2.14</td>
<td>.12</td>
</tr>
</tbody>
</table>

*3.11-"F" required for significance at P=.05

Group II made a greater mean gain than did Group III. Group II gained 2.97 more than Group III. The gain was not statistically significant, but it showed a definite trend.

There was a large difference in the mean gain, 5.24, made by Group I over Group III. There was a large mean gain secured on the self-concept test by the integrated subjects that was related to the proportion of Negro membership in the classroom. Mean gains approached significance as the proportion of Negro integration decreased. As the Negro membership in integrated classes increased, the mean gains in self-concept decreased.

Hypothesis 4.--It was stated in Hypothesis 4 that changes in the integrated white subjects on a measure of
self-concept would not be related to sex. The data did support the hypothesis; gains in self-concept were not related to sex. In a direct comparison only one group of female students made important gains.

The data pertaining to Hypothesis 4 are presented in Table VI. Table VI contains a comparison of the mean gains by the boys and girls in each of the twelve groups.

The girls in integrated Group I made a mean gain of .60 more than the boys in integrated Group I. The boys in integrated Group II made a mean gain of 2.20 more than the girls in integrated Group II. The girls in integrated Group III made a mean gain of 5.46 more than the boys in integrated Group III. In the comparison of the boy's and girl's mean gains in the integrated group, the girls in Group III made the greatest gains. When compared, mean gains made by either the boys or girls in the integrated group on self-concept were not significant at the P=.05 level of confidence.

In a comparison of all the mean gains made by the integrated and segregated boys and girls on self-concept, there was only one comparison which was significant at the P=.05 level. The "t" score for integrated boys Group III when compared with segregated girls Group III was -2.47; 2.04 was required for significance.
TABLE VI

MALE MEAN GAINS COMPARED TO FEMALE MEAN GAINS ON THE
CALIFORNIA TEST OF PERSONALITY

<table>
<thead>
<tr>
<th>Boy's Mean Gains</th>
<th>Girl's Mean Gains</th>
<th>&quot;F&quot;</th>
<th>P</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Integrated Groups</td>
<td>Segregated Groups</td>
<td>Integrated Groups</td>
<td>Segregated Groups</td>
</tr>
<tr>
<td>4.80</td>
<td>3.33</td>
<td>- .93</td>
<td>2.33</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>1.20</td>
</tr>
</tbody>
</table>

*1.85 "F" required for significance at P=.05
Summary of Self-Concept Facts

The facts obtained by a pre-test and a post-test administration of the California Test of Personality substantiate the following statements:

1. The mean loss, in a difference of the mean gains, by the integrated subjects to segregated subjects on self-concept was significant (P=.10), but the .05 level of significance was not achieved.

2. Students in the segregated classrooms made greater mean gains in self-concept than did the integrated students; the only exception was that integrated Group I made greater mean gains than did segregated Group I and Group II.

3. As the Negro membership in integrated classes increased, gains in self-concept decreased.

4. In a comparison of the males and females in the experimental group, the mean gains in self-concept made by the participants were not significant.

5. An examination of all the mean gains made by integrated and segregated male and female subjects revealed that control girls in Group III made significant gains, (P=.05), when they were compared with experimental boys in Group III.

Hypothesis Concerning Attitude

The primary hypothesis related to changes in attitude was to determine if the mean gains made by the integrated pupils, on equivalent forms of the Purdue Racial Attitude
Scale, were significantly greater than those made by the segregated pupils.

Hypothesis 5.--It was stated in Hypothesis 5 that white pupils in integrated classrooms would indicate a higher mean gain in attitude toward Negroes as measured by the Purdue Master Attitude Scale than would the pupils in the all-white classrooms. The research hypothesis was not supported by the data; therefore, the null hypothesis was accepted. Table VII showed that the integrated subjects increased their mean gain .16, on an eleven point scale, more than the segregated subjects.

**TABLE VII**

**COMPARISON OF INTEGRATED AND SEGREGATED SUBJECTS ON THE PURDUE MASTER ATTITUDE SCALE**

<table>
<thead>
<tr>
<th>Integrated Subjects' Mean Gain</th>
<th>Segregated Subjects' Mean Gain</th>
<th>Mean Gain Difference</th>
<th>&quot;f&quot; Statistic</th>
<th>P</th>
<th>&quot;t&quot; Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>.28</td>
<td>.12</td>
<td>.16</td>
<td>.44</td>
<td>.52</td>
<td>.66</td>
</tr>
</tbody>
</table>

*"t" score required for significance at .05 level of confidence is 1.97

Both groups made small mean gains in attitude. The integrated subjects' small mean gain was not statistically significant.
Hypothesis 6.—It was stated in Hypothesis 6 that students in all-white classrooms would obtain a significantly lower mean gain in attitude toward Negroes than would the white students in classrooms where 26 to 55 per cent of the students are Negroes. The data supported the research hypothesis; the null hypothesis was rejected.

The data pertaining to Hypothesis 6 are presented in Table VIII. The table contains mean gains, "F" statistics, "P" scores of significance, and "t" scores. Each of the integrated groups is compared with the three segregated groups.

The integrated students in Group II, Negro membership 26 to 55 per cent, made greater mean gains in attitude toward Negroes than did the segregated subjects. The gains made by the participants in integrated Group II were significantly greater than the gains made by the pupils in segregated Groups I and III. Integrated Group II made greater mean gains than segregated Group II, but they were not statistically significant.

Integrated Group I made larger mean gains than did the segregated Groups I and III; the gain over Group III was significant at the P=.10 level of significance. Pupils in segregated Group II achieved greater mean gains than did the pupils in integrated Groups I and III. The mean gains obtained by integrated Group II were significant when compared with segregated Group III.
<table>
<thead>
<tr>
<th></th>
<th>Integrated Group</th>
<th>Segregated Group I</th>
<th>Segregated Group II</th>
<th>Segregated Group III</th>
<th>&quot;F&quot; Statistic</th>
<th>P</th>
</tr>
</thead>
<tbody>
<tr>
<td>Group I</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Negro Membership 5%-24%</td>
<td>N=30</td>
<td>N=30</td>
<td>N=30</td>
<td>N=30</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mean Gain</td>
<td>.23</td>
<td>.16</td>
<td>.75</td>
<td>-.55</td>
<td>*2.97</td>
<td>.03</td>
</tr>
<tr>
<td>&quot;t&quot; Score</td>
<td>.19</td>
<td>-1.26</td>
<td>1.91</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Group II</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Negro Membership 26%-55%</td>
<td>N=30</td>
<td>N=30</td>
<td>N=30</td>
<td>N=30</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mean Gain</td>
<td>.99</td>
<td>.16</td>
<td>.75</td>
<td>-.55</td>
<td>*5.62</td>
<td>.00</td>
</tr>
<tr>
<td>&quot;t&quot; Score</td>
<td>*2.02</td>
<td>.58</td>
<td>*3.74</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Group III</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Negro Membership 76%-95%</td>
<td>N=30</td>
<td>N=30</td>
<td>N=30</td>
<td>N=30</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mean Gain</td>
<td>-.37</td>
<td>.16</td>
<td>.75</td>
<td>-.55</td>
<td>*3.62</td>
<td>.02</td>
</tr>
<tr>
<td>&quot;t&quot; Score</td>
<td>-1.28</td>
<td>*-2.73</td>
<td>.44</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*p=0.05, "F" and 2.00 "t" required for significance at P=0.05*
The integrated subjects in Group III did not make greater mean gains than did the segregated subjects; the gains made by segregated Group II were significant at the .05 level. The integrated pupils in Group III did make a mean gain of .18 more than the segregated pupils in Group III. The only groups that did not gain in their attitudes toward Negroes were integrated Group III and segregated Group III. These two groups regressed instead of gaining.

The trend, supported by the data obtained in this study, was for integrated white students, in classrooms with a 5 to 55 per cent Negro membership, to improve their attitudes toward Negroes more than the segregated students.

Hypothesis 7.—It was stated in Hypothesis 7 that white students in predominantly Negro classrooms would obtain a significantly lower mean gain in attitude toward Negroes than would the white students in classrooms where 26 to 55 per cent of the students are Negroes. The research hypothesis was supported by the data; the null hypothesis was rejected.

Table IX and X contain the data pertaining to Hypothesis 7. Table IX presents statistical comparisons of pre-test and post-test mean scores obtained by the integrated pupils on the Purdue Master Attitude Scale. Integrated Group II made the largest mean gain, .99 on an eleven point scale, in attitude. Group II made a gain of .76 more than integrated Group I and a gain of 1.36 more than integrated Group III on
TABLE IX
MEAN GAINS OF INTEGRATED SUBJECTS BY PROPORTION OF CLASSROOM INTEGRATION ON THE PURDUE MASTER ATTITUDE SCALE

<table>
<thead>
<tr>
<th>Group I</th>
<th>Group II</th>
<th>Group III</th>
<th>&quot;F&quot;</th>
<th>P</th>
</tr>
</thead>
<tbody>
<tr>
<td>Negro Membership</td>
<td>Negro Membership</td>
<td>Negro Membership</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5%-24% N=30</td>
<td>26%-55% N=30</td>
<td>76%-95% N=30</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pre-Test Mean</td>
<td>Post-Test Mean</td>
<td>Pre-Test Mean</td>
<td>Post-Test Mean</td>
<td>Pre-Test Mean</td>
</tr>
<tr>
<td>6.03</td>
<td>6.26</td>
<td>5.38</td>
<td>6.37</td>
<td>.99</td>
</tr>
</tbody>
</table>

*3.11-"F" required for significance at P=.05

an eleven point scale. Group III obtained a mean loss of -.37 and regressed in attitude toward Negroes from pre-test to post-test. Group I made a mean gain of .60 more than Group III. Students in classrooms with 26 to 55 per cent Negroes improved their attitudes toward Negroes more rapidly than did pupils in other integrated classes. Group I, Negro membership 5 to 24 per cent, made a positive attitude improvement. Group III, 76 to 95 per cent Negroes, was the only group that regressed, obtained a mean loss, in its attitude toward Negroes.

Table X shows the significant mean gains, at the .05 level of confidence, by "t" test comparison.
Integrated Group II made significance mean gains when it was compared with integrated Group I and III. The gains made by Group I when compared with Group III were not significant, but a gain was achieved.

Hypothesis 8.--It was stated in Hypothesis 8 that the change in a measure of attitude would not be related to sex. The hypothesis was supported by the data; mean gains in attitude were not related to sex.

An analysis of variance test was used to determine significances among the male and female integrated groups and the male and female segregated groups. Table XI shows there were no significant gains made by the boys or girls when mean gains in attitude were compared.
TABLE XI

SIGNIFICANCE OF SEX DIFFERENCES ON
THE PURDUE MASTER ATTITUDE SCALE

<table>
<thead>
<tr>
<th></th>
<th>Integrated Groups Mean Gain</th>
<th>Segregated Groups Mean Gain</th>
<th>&quot;F&quot; Statistic</th>
<th>P</th>
</tr>
</thead>
<tbody>
<tr>
<td>Male</td>
<td>.43</td>
<td>Male</td>
<td>.22</td>
<td>.48</td>
</tr>
<tr>
<td>Female</td>
<td>.14</td>
<td>Female</td>
<td>.02</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>.70</td>
<td></td>
</tr>
</tbody>
</table>

*2.66-"F" required for significance at P=.05

The boys in the segregated and integrated groups did make larger gains than did the girls.

Table XII contains a comparison of the mean gains made by the boys and girls in each of the twelve groups. An analysis of Table XII determines the exact mean gains made by each sub-group. The "F" statistic showed some significant gains at the P=.05 level of confidence. There were three groups that did not make positive gains, but regressed; boys segregated Group III, girls integrated Group III, and girls segregated Group III were the groups that did not achieve a mean gain. When a comparison of each segregated or integrated group was made, girls integrated Group II obtained a large mean gain. On each test, concerning racial attitudes, students in Group II in the integrated and segregated classrooms made positive mean gains. The subjects in Group I in the integrated and segregated classes obtained mean gains,
TABLE XII

MALE MEAN GAINS COMPARED TO FEMALE MEAN GAINS ON THE PURDUE MASTER ATTITUDE SCALE

<table>
<thead>
<tr>
<th>Boy's Mean Gains</th>
<th>Girl's Mean Gains</th>
<th>&quot;F&quot;</th>
<th>P</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Integrated</strong></td>
<td><strong>Segregated</strong></td>
<td><strong>Integrated</strong></td>
<td><strong>Segregated</strong></td>
</tr>
<tr>
<td>Groups</td>
<td>Groups</td>
<td>Groups</td>
<td>Groups</td>
</tr>
<tr>
<td>.29</td>
<td>.75</td>
<td>.24</td>
<td>.17</td>
</tr>
</tbody>
</table>

*1.85-"F" required for significance at P=.05*
but the gains, in most instances, were not as large as those made by the integrated and segregated subjects in Group II. The mean gains made by the boys and girls on racial attitudes were similar.

Table XIII shows the location of the significant gains made on racial attitudes when boys and girls were compared. The integrated boys made one significant gain; the boys in integrated Group II made significant mean gains when compared with the girls in segregated Group III. The integrated girls achieved one significant gain; girls integrated Group II achieved greater gains than did the boys in segregated Group III. The comparison of integrated and segregated groups showed that boys and girls, in the integrated groups, obtained some large mean gains that were not significant. There were no significant gains achieved when the integrated groups were compared to the integrated groups. The greatest gain made when the integrated groups were compared was the gain made by the boys in Group II.

**Hypothesis 9.**—It was stated in Hypothesis 9 that the change in a measure of attitude by the white students toward the Negroes would not be related to academic achievement. The data did support the hypothesis; the change in a measure of attitude was not related to academic achievement.
<table>
<thead>
<tr>
<th>Integrated Boys Group I Compared with Girls</th>
<th>Integrated Girls</th>
<th>Segregated Girls</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Gp 1</td>
<td>Gp 2</td>
</tr>
<tr>
<td></td>
<td>N=15</td>
<td>N=15</td>
</tr>
<tr>
<td>&quot;t&quot; Score = #</td>
<td>.46</td>
<td>-1.28</td>
</tr>
<tr>
<td>Integrated Girls II</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Integrated Boys Group III</td>
<td>1.25</td>
<td>- .48</td>
</tr>
<tr>
<td>Integrated Girls Group I Compared with Boys</td>
<td>Gp 1</td>
<td>Gp 2</td>
</tr>
<tr>
<td></td>
<td>N=15</td>
<td>N=15</td>
</tr>
<tr>
<td>&quot;t&quot; Score = #</td>
<td>-.46</td>
<td>-1.25</td>
</tr>
<tr>
<td>Integrated Boys Group II</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Integrated Girls Group II</td>
<td>1.28</td>
<td>.48</td>
</tr>
<tr>
<td>Integrated Boys Group III</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Integrated Girls Group III</td>
<td>-1.21</td>
<td>-2.00</td>
</tr>
</tbody>
</table>

*2.05-"t" required for significance at P=.05
Table XIV presents a correlation showing the interrelationship of changes obtained by white students on attitudes, and achievement.

**TABLE XIV**

**CORRELATION OF MEAN GAINS ON THE PURDUE MASTER ATTITUDE SCALE AND THE IOWA TEST OF BASIC SKILLS**

<table>
<thead>
<tr>
<th></th>
<th>Integrated Group</th>
<th>Segregated Group</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>N=90</td>
<td>N=90</td>
</tr>
<tr>
<td>Attitude Mean SD</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>.28 1.54</td>
<td>.40 .50</td>
<td>-.03</td>
</tr>
<tr>
<td>.21 &quot;r&quot; required for significance at .05</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

The negative correlations for the integrated and for the segregated groups were not significant at the .05 level. There was a tendency, in terms of the scores obtained, for pupils with low scores on attitudes toward Negroes to obtain high scores in academic achievement; this tendency was more pronounced among the integrated pupils.

Summary of Racial Attitude Data

1. Initial difference between mean gains of integrated and segregated subjects obtained by a pre-administration and
a post-administration of the Purdue Master Attitude Scale were not significant ($t=.66$).

2. Integrated subjects gained .16 of a point more on an eleven point scale than did the segregated subjects.

3. Integrated students in classrooms with a Negro membership of 26 to 55 per cent made significantly larger mean gains than did most of the segregated students.

4. Integrated students in classrooms with a Negro membership of 26 to 55 per cent obtained significantly greater mean gains on the Purdue Master Attitude Scale than did the integrated subjects in classrooms with a membership of 76 to 95 per cent Negroes. Students in Group II also made a greater mean gain than did the students in Group I, Negro membership 5 to 24 per cent.

5. Sex was not related to mean gains in attitude toward Negroes.

6. The changes in attitude were not related to academic achievement.

7. The trend was for students in classrooms with a Negro membership of 26 to 55 per cent to make the greatest gains in their attitude toward Negroes.

Hypotheses Concerning Achievement

The primary area of concentration, concerning the hypotheses related to achievement, was discerning if the mean gain scores made by integrated subjects on equivalent forms
of the *Iowa Test of Basic Skills* were significantly better than that of the segregated subjects.

**Hypothesis 10.**--It was stated in Hypothesis 10 that white students in integrated classrooms would indicate significantly greater mean gains in academic achievement than would the students attending all-white schools. The research hypothesis was not supported by the data; therefore, the null hypothesis was accepted.

Table XV showed that the integrated participants increased their mean gain .06 or .1 (one) month more than the segregated participants.

**TABLE XV**

**COMPARISON OF INTEGRATED AND SEGREGATED SUBJECTS ON THE IOWA TEST OF BASIC SKILLS**

<table>
<thead>
<tr>
<th>Integrated Subjects' Mean Gain</th>
<th>Segregated Subjects' Mean Gain</th>
<th>Mean Gain Difference I-S</th>
<th>&quot;F&quot; Statistic</th>
<th>P</th>
<th>&quot;t&quot; Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>.40 mo.</td>
<td>.34 mo.</td>
<td>.06 mo.</td>
<td>.38</td>
<td>.54</td>
<td>.62</td>
</tr>
</tbody>
</table>

*1.97-"t" required for significance at P=.05*

Both the integrated and segregated subjects made small mean gains in achievement.

Table XVI presents a complete analysis of the mean gains made by the fourth and fifth-grade pupils on different tests.
sections included in the **Iowa Test of Basic Skills**. The scores on each test were converted into grade level equivalents such as 4.3 signifies 4th grade 3 months.

**TABLE XVI**

**SUB-TEST MEAN GAINS ON THE IOWA TEST OF BASIC SKILLS**

<table>
<thead>
<tr>
<th></th>
<th>Vocabulary</th>
<th></th>
<th>Language</th>
<th></th>
<th>Mathematics</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Pre-Test (GE)</td>
<td>Post-Test</td>
<td>MG mo</td>
<td>Pre-Test (GE)</td>
<td>Post-Test</td>
</tr>
<tr>
<td>I G r o u p s 1</td>
<td>3.8</td>
<td>3.9</td>
<td>.1</td>
<td>3.8</td>
<td>4.5</td>
</tr>
<tr>
<td>I g r o u p s 2</td>
<td>4.7</td>
<td>5.3</td>
<td>.6</td>
<td>4.9</td>
<td>5.4</td>
</tr>
<tr>
<td>I g r o u p s 3</td>
<td>3.6</td>
<td>4.1</td>
<td>.5</td>
<td>3.6</td>
<td>4.1</td>
</tr>
</tbody>
</table>

The largest mean gains were made on the language section by the integrated pupils and on the vocabulary section by the segregated pupils.
Hypothesis II.—It was stated in Hypothesis II that students in all-white classrooms would obtain significantly lower mean gains in academic achievement than would the white students in classrooms where 26 to 55 per cent of the students are Negroes. The data did not support the research hypothesis; the null hypothesis was accepted.

The data pertaining to Hypothesis II are presented in Table XVII. The table contains mean gains, "F" statistics, "P" levels, and "t" scores. The scores on each test were converted into grade level equivalents and the mean gains were obtained from these scores.

The mean gains made by the integrated and segregated subjects on achievement were very similar. All of the groups of students made small positive gains on the achievement tests that were given early in the school year and at the end of the school year. The gains made by the groups were all in terms of months; none of the groups made a gain of one year or more. Integrated Group I and II and segregated Group III made a mean gain of .4 months; the other groups obtained a mean gain of .3 months from pre-test to post-test. The greatest gains were made by integrated Group II and segregated Group III. Group I, Negro membership 5 to 24 per cent, made a gain of .43 that was comparable to Group II.
TABLE XVII

SUB-GROUP COMPARISON OF MEAN GAINS: EACH INTEGRATED GROUP COMPARED TO SEGREGATED GROUPS ON THE IOWA TEST OF BASIC SKILLS

<table>
<thead>
<tr>
<th>Group I Negro Membership</th>
<th>Integrated Group N=30</th>
<th>Segregated Group I N=30</th>
<th>Segregated Group II N=30</th>
<th>Segregated Group III N=30</th>
<th>&quot;F&quot; Statistic</th>
<th>P</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mean Gain</td>
<td>.43 mo.</td>
<td>.32 mo.</td>
<td>.28 mo.</td>
<td>.44 mo.</td>
<td>.48</td>
<td>.70</td>
</tr>
<tr>
<td>&quot;t&quot; Score</td>
<td>.68</td>
<td>.92</td>
<td>-.07</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Group II Negro Membership</th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Mean Gain</td>
<td>.44 mo.</td>
<td>.32 mo.</td>
<td>.28 mo.</td>
<td>.44 mo.</td>
<td>.50</td>
<td>.69</td>
</tr>
<tr>
<td>&quot;t&quot; Score</td>
<td>.76</td>
<td>.99</td>
<td>.05</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Group III Negro Membership</th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Mean Gain</td>
<td>.32 mo.</td>
<td>.32 mo.</td>
<td>.28 mo.</td>
<td>.44 mo.</td>
<td>.37</td>
<td>.78</td>
</tr>
<tr>
<td>&quot;t&quot; Score</td>
<td>.05</td>
<td>.29</td>
<td>-.71</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*2.68-"F" and 2.00 "t" required for significance at P=.05
Because of the comparable mean gains, a trend could not be established.

**Hypothesis 12.**—It was stated in Hypothesis 12 that white students in predominantly Negro classrooms would obtain significantly lower mean gains in academic achievement than would the white students in classrooms where 26 to 55 percent of the students are Negroes. The data did not support the research hypothesis. The null hypothesis was accepted; there was no significant difference in the gains made by the two integrated groups.

Table XVIII contains the data pertaining to Hypothesis 12; statistical comparisons of the three sub-groups within the one large integrated group are presented.

**TABLE XVIII**

<table>
<thead>
<tr>
<th>Group I</th>
<th>Group II</th>
<th>Group III</th>
</tr>
</thead>
<tbody>
<tr>
<td>Negro Membership</td>
<td>Negro Membership</td>
<td>Negro Membership</td>
</tr>
<tr>
<td>5%-24% (N=30)</td>
<td>26%-55% (N=30)</td>
<td>76%-95% (N=30)</td>
</tr>
<tr>
<td>Pre-Test Mean (GE)</td>
<td>Post-Test Mean (GE)</td>
<td>Mean Gain Mo.</td>
</tr>
<tr>
<td>3.74</td>
<td>4.17</td>
<td>.43</td>
</tr>
<tr>
<td>Pre-Test Mean (GE)</td>
<td>Post-Test Mean (GE)</td>
<td>Mean Gain Mo.</td>
</tr>
<tr>
<td>4.75</td>
<td>5.19</td>
<td>.44</td>
</tr>
<tr>
<td>Pre-Test Mean (GE)</td>
<td>Post-Test Mean (GE)</td>
<td>Mean Gain Mo.</td>
</tr>
<tr>
<td>3.73</td>
<td>4.05</td>
<td>.32</td>
</tr>
</tbody>
</table>

"F" required for significance at P=.05

*3.11-"F" required for significance at P=.05*
The significance of the academic achievement mean gain changes was determined by an analysis of variance.

All of the groups made positive mean gains in academic achievement. Group II, Negro membership 26 to 55 per cent, made the largest mean gain, .44 months; the gain was not statistically significant. Group III, Negro membership 76 to 95 per cent, made the least gain. The gains achieved by each group were very similar.

Hypothesis 13.--It was stated in Hypothesis 13 that the gains in academic achievement would not be related to sex. The data did support the hypothesis; gains in achievement were not related to sex.

The data pertaining to Hypothesis 13 are presented in Tables XIX and XX. Table XIX presents a comparison of the mean gains made by the boys and girls in the integrated and segregated groups.

TABLE XIX
SIGNIFICANCE OF SEX DIFFERENCES ON THE IOWA TEST OF BASIC SKILLS

<table>
<thead>
<tr>
<th>Integrated Groups Mean Gain</th>
<th>Segregated Groups Mean Gain</th>
<th>&quot;F&quot; Statistic</th>
<th>P</th>
</tr>
</thead>
<tbody>
<tr>
<td>Male</td>
<td>Female</td>
<td>Male</td>
<td>Female</td>
</tr>
<tr>
<td>.34 mo.</td>
<td>.45 mo.</td>
<td>.26 mo.</td>
<td>.43 mo.</td>
</tr>
</tbody>
</table>

*2.66-"F" required for significance at P=.05.
When the mean gains of the boys and girls were compared, the differences were not statistically significant. The girls made the largest mean gains in both the integrated and segregated groups. The boys in the integrated group made a larger mean gain than did the boys in the segregated group and the girls in the integrated group obtained a greater mean gain than did the girls in the segregated group. The integrated students, boys and girls, made a greater mean gain in academic achievement than did the segregated students.

Table XX presents a comparison of the male and female mean gains in each of the twelve sub-groups. The "F" score and the "P" level of confidence are presented. The table establishes that all of the groups made mean gains in academic achievement; on equivalent forms of the Iowa Test of Basic Skills, the participants made positive mean gains when the pre-test scores were subtracted from the post-test scores. There were no significant mean gains made by either the girls or boys. The greatest gain was made by segregated girls Group III (.64 months) and segregated boys Group II (.56 months). None of the groups made a gain of one year or more. The lowest group gain was .17 months and the largest group gain was .64 months; the difference was .47 months. The gains were all very similar. The academic achievement gains made by the male and female students were small, but
### TABLE XX

**MALE MEAN GAINS COMPARED TO FEMALE MEAN GAINS ON THE IOWA TEST OF BASIC SKILLS**

<table>
<thead>
<tr>
<th>Boy's Mean Gains</th>
<th>Girl's Mean Gains</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Integrated Groups</strong></td>
<td><strong>Segregated Groups</strong></td>
</tr>
<tr>
<td>0.36 mo.</td>
<td>0.33 mo.</td>
</tr>
</tbody>
</table>

*1.85 "F" required for significance at P = 0.05*
an increase in learning by all of the groups of students was ascertained.

Summary of Academic Achievement Data

1. No significant difference existed between the academic achievement of integrated and segregated white students as measured by the pre-test and post-test administrations of the Iowa Test of Basic Skills.

2. Equivalent forms of the Iowa Test of Basic Skills were administered to fourth and fifth-grade students during one school year; small mean gains were obtained when the scores were compared, integrated subjects four months and segregated subjects three months.

3. The integrated students made the greatest mean gains on the language section of the Iowa Test of Basic Skills; the segregated students made the greatest mean gains on the vocabulary section.

4. The achievement gains made by integrated Group II, Negro membership 26 to 55 per cent, were very similar to those made by the segregated groups.

5. There were no significant academic achievement mean gains obtained when the integrated groups were compared; Group II, Negro membership 26 to 55 per cent, made the largest mean gains.

6. Gains in academic achievement were not related to sex; the female subjects made greater mean gains than did the
boys, but the gains were not statistically significant; the mean gains in academic achievement obtained by the male and female subjects were very similar.
CHAPTER V

SUMMARY, FINDINGS, CONCLUSIONS, AND RECOMMENDATIONS

Summary

The primary purpose of this study was to investigate the distinguishing differences and changes in integrated and segregated white students' self-concepts, racial attitudes, and academic achievements.

Changes and differences in the three areas under investigation were determined by comparing a group of ninety integrated white children in grades four and five with a matched group of ninety segregated white children. The integrated students were sub-divided into groups according to sex and the proportion of classroom integration; the integrated students were matched with the corresponding segregated students to resolve if the three variables: self-concept, racial attitude, and academic achievement were related to the development of integrated elementary school children. The pupils were matched on a basis of sex, grade level, mental ability, and socio-economic status.

The testing devices utilized to measure changes in self-concept, racial attitude, and academic achievement were the California Test of Personality, the Purdue Racial Attitude
Scale, and the Iowa Test of Basic Skills. The testing instruments were administered to the integrated and segregated pupils at the beginning and at the end of the school year. Mean changes obtained by the groups on the testing instruments, from pre-test to post-test, were statistically analyzed. The changes in the integrated and the segregated groups of students and their sub-groups were scrutinized by statistical procedures employing "t" tests, analysis of variance tests, and correlations.

Specific sub-purposes of the study were:

1. To determine if the self-concept of white students in integrated classrooms was different from that of students in segregated classrooms.

2. To determine if the self-concept changes obtained by integrated white students were related to the proportion of classroom integration.

3. To determine if the self-concept changes among the integrated students were related to sex.

4. To determine if the racial attitude of white students in integrated classrooms was different from that of students in segregated classrooms.

5. To determine if the racial attitude changes obtained by integrated white students were related to the proportion of classroom integration.

6. To determine if the racial attitude changes among the integrated students were related to sex.
7. To determine if the racial attitude changes and the academic achievement changes of integrated white children were related.

8. To determine if the academic achievement of white students in integrated classrooms was different from that of students in segregated classrooms.

9. To determine if the academic achievement changes obtained by integrated white students were related to the proportion of classroom integration.

10. To determine if the academic achievement changes among the integrated students were related to sex.

Upon analyzing the results of the data obtained, the following findings are presented.

Findings

The findings, concerning the development of integrated white students, were divided into three categories: self-concept, racial attitude, and academic achievement; each of the three separate areas of concern is presented.

Self-Concept Findings. The main self-concept finding was that the integrated white students failed to significantly exceed the growth of matched, segregated students on the California Test of Personality. The segregated students made gains that were significant, from pre-test to post-test, in self-concept at the $P=.10$ level of significance. Both groups made positive mean gains in self-concept.
2. White students in classrooms where 26 to 55 percent of the students were Negroes obtained lower mean gains in self-concept than did the segregated students; the mean gains were not significant at the \( P = .05 \) level of confidence.

3. Significant mean gain differences were not found among the integrated sub-groups. As the Negro membership in integrated classes increased, the mean gains in self-concept decreased.

4. The only integrated sub-group that failed to obtain a positive mean gain, from the pre-test to the post-test, was Group III, 76 to 95 percent Negro membership; the mean loss was \(-.167\).

5. When the males and females in both the integrated and segregated groups were compared, the mean gains made by the subjects on the California Test of Personality were not significant.

Racial Attitude Findings.---1. The primary racial attitude finding was that the integrated white students failed to significantly exceed the growth of matched, segregated students on the Purdue Master Attitude Scale. The mean gain difference, from pre-test to post-test, favored the integrated students; the integrated subjects increased their mean gain .16, on an eleven point scale, more than the segregated subjects. Both groups made small mean gains in racial attitudes.
2. White students in classrooms where 26 to 55 per cent of the students were Negroes achieved significantly greater mean gains in racial attitudes toward Negroes than did the white segregated students.

3. Significant mean gain differences were found among the integrated sub-groups; when integrated Group II was compared to integrated Group III, a significant mean gain was obtained. Students in classrooms with 26 to 55 per cent Negroes improved their racial attitudes more rapidly than did the pupils in the other integrated classrooms.

4. The only integrated sub-group that failed to obtain a positive mean gain, from the pre-test to the post-test, was Group III, 76 to 95 per cent Negro membership; the mean loss was -.37 on an eleven point scale.

5. When the males and females in both the integrated and segregated groups were compared, the mean gains made by the subjects on the Purdue Master Attitude Scale were not significant.

6. The changes in racial attitude were not related to the changes in academic achievement. There was a tendency for pupils obtaining low scores on racial attitude to obtain higher scores on academic achievement.

Academic Achievement Findings—1. The major academic achievement finding was that the integrated white students failed to significantly exceed the growth of matched,
segregated students on the Iowa Test of Basic Skills. The mean gain difference, from pre-test to post-test, favored the integrated students; the integrated subjects increased their mean gain one month beyond the mean gain achieved by the segregated subjects. Both groups made small mean gains in academic achievement.

2. The integrated pupils made their greatest mean gains on the language section of the Iowa Test of Basic Skills; the segregated subjects made their greatest mean gains on the vocabulary section.

3. White students in classrooms where 26 to 55 per cent of the students were Negroes obtained greater mean gains in academic achievement than did the segregated students; in one instance, the integrated and segregated sub-group mean gains were the same. The gains were not significant at the P=.05 level of confidence.

4. Significant mean gain differences in achievement were not found among the integrated sub-groups. The greatest mean gain in academic achievement was obtained by Group II, 26 to 55 per cent Negro membership; the lowest mean gain was obtained by Group III, 76 to 95 per cent Negro membership.

5. When the males and females in both the integrated and segregated groups were compared, the mean gains made by the subjects on the Iowa Test of Basic Skills were not significant.
6. The students in the integrated and segregated subgroups did not have a mean loss in achievement from the pre-test to the post-test.

Conclusions

The findings from the testing of the hypotheses of this study supported the following conclusions concerning the self-concepts, racial attitudes, and academic achievements of integrated and segregated pupils in elementary schools:

1. Gains in self-concept, racial attitude, and academic achievement will not be related to a child's sex.

2. Students in integrated classrooms with a 26 to 55 per cent Negro enrollment will improve their racial attitudes more rapidly than will segregated students.

3. Students in integrated classrooms with a 26 to 55 per cent Negro enrollment will improve their racial attitudes more rapidly than will other white students attending classrooms with various degrees of integration.

4. The academic achievement of integrated and segregated white pupils will not be significantly related to changes in racial attitudes.

The following conclusions did not attain the required level of statistical significance, and the conclusions may be attributed to chance; however, the descriptive nature of the data indicated that:
1. Both integrated and segregated students will obtain self-concept gains, favorable racial attitude gains, and academic achievement gains in an elementary school environment.

2. Segregated white subjects will tend to gain a favorable self-concept ideal more rapidly than will the integrated white subjects.

3. As the Negro membership in integrated classrooms increases, the self-concept of white children will tend to decrease.

4. Integrated white students in predominantly Negro classrooms will have a tendency to obtain a loss in self-concept.

5. Integrated subjects will achieve a small favorable gain in racial attitude beyond that achieved by segregated students.

6. Integrated white students in predominantly Negro classrooms will tend to obtain a loss in favorable racial attitudes.

7. Integrated subjects will tend to assimilate knowledge more rapidly than segregated subjects.

8. Students in integrated classrooms with a 26 to 55 per cent Negro enrollment will tend to improve their academic achievements more rapidly than will other white students attending classrooms with various degrees of racial integration.
Implications and Recommendations

Several implications and recommendations may be inferred from the findings of this study. Among these are the following specific implications and recommendations:

1. From the results it was found that: (a) the segregated students made the greatest gains in self-concept; (b) both groups, integrated and segregated, made gains in self-concept; (c) as the Negro membership in integrated classrooms increased, the self-concept of white students decreased. It may be inferred that white integrated students do not develop a favorable self-concept as rapidly as segregated students. White students in integrated classrooms need experiences that will help them improve their self-concepts.

2. From the results it was found that: (a) the integrated subjects obtained the largest gain in racial attitudes; (b) the white students in classrooms where 26 to 55 per cent of the students were Negroes achieved significant mean gains in racial attitudes beyond that achieved by the segregated subjects and the various integrated subjects. It may be inferred that students develop a better attitude toward Negroes when classrooms are integrated and that they develop a favorable attitude more rapidly when the class contains 26 to 55 per cent Negroes.

3. From the results it was found that: (a) the integrated students made the greatest gain in academic achievement; (b) the white students in classrooms where 26 to 55 per
cent of the students were Negroes obtained greater mean gains in academic achievement than did most of the segregated or integrated groups. It may be inferred that children in integrated classes learn as rapidly as segregated students; integration may help advance the academic achievement of Caucasians in the elementary schools. This study supports a conclusion that the best integrated learning environment contained 26 to 55 per cent Negroes.

In view of the findings of this investigation, the following general recommendations are made:

1. That a periodic or longitudinal study be inaugurated for the purpose of determining the effects of integration on white children over a protracted period of time. The self-concepts, racial attitudes, and academic achievements of integrated white students should be determined as they continue through school; this would disclose the progress and effects of continued integration.

2. That a parallel study be inaugurated examining the effects of integration on other ethnic groups.

3. That a review be made of the extent to which standardized mental ability tests are effective in determining the academic ability of children from economically depressed areas.

4. That the findings acquired from this study be utilized judiciously: the study determined effects of integration for only one school year; the study was completed in
one large school district; most of the participants were from the same type of socio-economic environment.

5. That the findings derived from this study be considered when determining the percent of Negro enrollment providing the best learning environment for the development of self-concepts, racial attitudes, and academic achievements.
BIBLIOGRAPHY

Books


99


**Articles**


Hancock, J. W., "An Experimental Study of Limiting Response on Attitude Scales," Bulletin of Purdue University, 1938.


Reports


Publications of Learned Organizations

Educational Policies Commission of the NEA and the American Association of School Administrators, "De Facto Segregation," The Education Digest, XXXI (October, 1965), 1-3.


Encyclopedia Articles


Public Documents


Unpublished Materials