A COMPARATIVE STUDY OF TWO METHODS OF TEACHING EIGHTH-GRADE SOCIAL STUDIES IN THE GRANBURY ELEMENTARY SCHOOL

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TABLE OF CONTENTS

LIST OF TABLES

Table | Page

# CHAPTER I

## INTRODUCTION

A very close understanding and cooperation between teacher and students are very necessary for an effective program of social studies. The activities of experiences must be thoroughly planned ahead of the working periods.

The school curriculum centers in individual and group concerns of every day living that are meaningful to the pupils in the world in which they live. This does not mean that the curriculum is centered only around the needs and interests expressed by the child, but it grows out of the teacher's best insight into the real problems with which the learner is trying to deal.

Since the curriculum grows out of the experiences of the child, it is always flexible and developing. The duty of all teachers is to guide students in going beyond the immediate situation and to help them to become aware of related problems, to see further implications of the immediate situations, and to grow in ability to deal with persistent life situations which are a part of it. The teacher must strive to acquaint the students with new experiences which will enrich the total pattern of their living. The social studies are involved in

all life situations, and new experiences in them are not difficult to find.

If life situations are the curriculum, then the textbooks serve as a source area, as they contribute to the pupil's immediate concern and to his insight into related problems. This does not mean less content; it means an enlarging and more vital content.

> Children and youth are the greatest resource of our nation, but their full potentialities will be realized only through a curriculum designed to meet their needs in today's world.[1]

## Statement of the Problem

This comparative study of methods used in teaching social studies in the eighth grade was carried out in the Granbury Elementary School, Granbury, Texas, during the 1949-1950 school term. Two eighth-grade classes were used as the experimental and control groups.

## Purpose of the Study

The major purpose of this study was to compare the progress made by a group of children taught by the experience method of teaching with a group taught by the old textbook method, to determine whether the experimental group would show as much gain in academic knowledge as the control group,

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[1]Florence B. Stratemeyer, Hamden L. Forkner, and Margaret G. McKim, Developing a Curriculum for Modern Living, p. 69.

and in turn gain the other desired traits of the present-day personal and social needs.

Two groups of pupils were measured by the California Test of Mental Maturity, Elementary '47 S-Form to match the individuals from the standpoint of mentality. The fifty-two boys and girls who had been promoted the previous year to the eighth grade were given the California Test of Mental Maturity for the purpose of grouping them for this study. The pupils were paired according to their mental ages into twenty-six pairs. There were not more than three points difference in the mental ages of any one pair. All the tests were given and graded by the same person.

Table 1 gives the pairing of the fifty-two boys and girls according to their mental ages and their intelligence quotients. Pupil 1 of the experimental group had a mental age of 195. Pupil 1 of the control group had a mental age of 193; therefore Pupil 1 of the experimental group was paired with Pupil 1 of the control group. In this way the fifty-two pupils were arranged into twenty-six pairs. From the results of this mental test the twenty-six children of the experimental group were considered evenly enough matched with the twenty-six children of the control group for study, though their intelligence quotients were not exactly the same.

TABLE 1

MENTAL AGE AND INTELLIGENCE QUOTIENT OF THE FIFTY-TWO PUPILS PAIRED

| Paired Number of Pupil | Mental Age | | Intelligence Quotient | |
|---|---|---|---|---|
| | E. G.[a] | C. G.[b] | E. G.[a] | C. G.[6] |
| 1 | 195 | 193 | 130 | 117 |
| 2 | 180 | 183 | 105 | 118 |
| 3 | 180 | 179 | 109 | 107 |
| 4 | 176 | 176 | 106 | 111 |
| 5 | 176 | 176 | 123 | 119 |
| 6 | 175 | 174 | 113 | 110 |
| 7 | 172 | 172 | 104 | 100 |
| 8 | 168 | 168 | 102 | 100 |
| 9 | 165 | 165 | 105 | 103 |
| 10 | 162 | 162 | 95 | 100 |
| 11 | 162 | 162 | 94 | 100 |
| 12 | 162 | 162 | 100 | 98 |
| 13 | 162 | 162 | 100 | 98 |
| 14 | 162 | 161 | 100 | 100 |
| 15 | 159 | 160 | 90 | 97 |
| 16 | 156 | 156 | 92 | 92 |
| 17 | 153 | 152 | 92 | 104 |
| 18 | 151 | 151 | 93 | 93 |
| 19 | 150 | 150 | 90 | 90 |
| 20 | 150 | 150 | 88 | 94 |
| 21 | 149 | 147 | 92 | 84 |
| 22 | 143 | 144 | 89 | 87 |
| 23 | 138 | 138 | 78 | 89 |
| 24 | 138 | 138 | 76 | 70 |
| 25 | 138 | 135 | 84 | 80 |
| 26 | 130 | 127 | 82 | 78 |
| Average | 160 | 163 | 97 | 98 |

[a]E. G.--Experimental Group
[b]C. G.--Controlled Group

## Definition of Terms

Throughout this study the following terms will be used:

M. A.--Mental Age, Given in months

I. Q.--Intelligence Quotient

E. G.--Experimental Group

C. G.--Controlled Group

Experimental Group--The group of children which was taught by the experience method.

Controlled Group--The group of children which was taught by the traditional method.

C. A.--Chronological Age

Edu. G.--Educational Grade

## Description of the Two Methods of Teaching

The child is the reason for the school, and he is the one for whom learning experiences are provided. It is for his development that the work of the school is directed. The foundation for developing an effective educational program depends on the understanding of the child as an individual and as a learner, on his personality, and on his purposes and interests.

> As long as we regiment teaching and proceed on the assumption that all children in a given class should be doing the same thing at the same time, we are wasting the child's time with either impossible or unnecessary tasks.[2]

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[2]Daisy M. Jones, "Who Wants to Know?" Childhood Education, XXVI (October, 1949), 75.

In this experiment two methods of teaching were used. One method of teaching was the traditional textbook method, and the other method was the newer method in which the child's experiences became the subject matter.

In contrasting these two methods it can be said that the children taught by the traditional method closed their books to pass a test, whereas the children of the other group opened their books to seek wanted information. In the traditional method the children recited facts to satisfy an assignment. In the newer method the children searched for facts to support a theory or to verify a belief.

In teaching the experimental group these problems were used: "What are those situations involving social relations which the child is or will be meeting?" and "How can he be assisted to meet those situations more effectively?" The above method proved far more effective than did the traditional textbook method. Cold facts printed in textbooks were not so interesting to a child as were the daily life problems with which he as an individual was confronted. However, it was very necessary that the school authorities spend much time considering the worth of the activities followed. If the teacher of the above group had failed in guiding, then the newer method could have become worse than the traditional method.

The children of the experimental group learned through experiences involving planning, self-direction, discovery,

exploration, and thinking. The pupils made their own assignments, discussed findings, and evaluated their own work. They acquired their skills and abilities because they felt the need for them or the lack of them.

> The child to be effective in situations involving social relations must: 1. Be able to function as a member of the various groups of which he is or will be a part. 2. Be competent in dealing with such problems as arise in these groups. 3. Have developed such attitudes as will permit a careful consideration of these problems. 4. Be able to locate and utilize such material as will bear upon these problems. With these needs as a basis the curriculum involving experiences in social relations is to be built.[3]

In teaching the control group the learning process took place by the dictated, prescribed, and controlled learning by the text and the teacher. The teacher made the assignments, asked questions, and evaluated the work. The skills and abilities were acquired by isolated drill.

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[3]J. Murray Lee and Dorris May Lee, The Child and His Curriculum, p. 272.

## CHAPTER II

## INFLUENCE OF THE TWO METHODS OF TEACHING ON ACADEMIC ACHIEVEMENTS

### Social Studies Achievements

All the subjects taught in the elementary school have a function which is a point of emphasis of democratic or modern education. Some of these subjects have more to do with the socialization of the pupil. These are called the "Social Studies." They are represented by community life, citizenship, history, and geography.

The purpose of social studies is to develop the pupil's social intelligence. This does not involve having the pupil learn through rote or memory a list of unrelated facts from the textbook. Such a method tends to restrict the growth of a social mind.

> Of course if geography and history are taught as ready-made studies which a person studies simply because he is sent to school, it easily happens that a large number of statements about things remote and alien to everyday experiences are learned. Activity is divided, and two separate worlds are built up, occupying activity at divided periods. No transmutation takes place; ordinary experience is not enlarged in meaning by getting its connections; what is studied is not animated and made real by entering into immediate activity. Ordinary experience is not even left as it was, narrow but vital. Rather it loses something of its mobility and sensitiveness to suggestions. It is weighed

> down and pushed into a corner by a load of unassimilated information. It parts with its flexible responsiveness and alert eagerness for additional meaning. Mere amassing of information apart from the direct interests of life makes mind wooden; elasticity disappears.[1]

If the social studies are treated as separate and distinct subjects, the desire to cover ground or to transmit subject matter is placed above the social development of the children. In the experimental method of teaching the social studies the boundary lines between subjects are erased and the children learn history and geography in a large center of interest which takes the place of traditional subjects.

In connection with this study the experimental group used many interesting activities in their social studies work. They made a field trip to the Children's Museum, Ft. Worth, Texas, and to other places of historical interest nearby. They collected pictures for scrapbooks, saw motion pictures, used View-Master Scenes of interesting points not available in motion pictures or in field trips. They used dramatization, including composition and presentation.

At the beginning of the 1949-1950 school term the experimental group wrote their autobiographies, including their family histories, the countries from which their ancestors came, and the places where they landed in the United States.

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[1]John Dewey, Democracy and Education, p. 245.

The pupils read books about these different places, and this reading led them to many interesting studies of the United States and of the world. This gave them not only historical and geographical knowledge, but taught them many other desirable things.

It was the purpose of the social studies class to develop the pupils in the democratic way of living. The activities or problems used by the newer method of teaching, which made social studies more real, needed to be evaluated with respect to the results to be obtained. The question of how the study of the past gave meaning to the modern ways of thinking and living needed to be considered.

> To make the past explain the present is coming to be accepted as the outstanding general objective of history instruction. Searching the past for explanation of present-day institutions, customs, and problems makes the study of history purposeful to children. Comparing and contrasting the life of their grandparents and great-grandparents with their own is always interesting to them. Conceiving their own interests, problems, and standards of judgment as different from those of the past is a necessary step toward understanding the present. Such a study gives history the much-needed personal appeal which it too often lacks. Moreover, the constant illumination of the present by means of the past and vice versa, enables pupils to do concrete and objective thinking in history. With purpose and thinking power on the part of the pupils history will not remain for them meaningless abstractions.[2]

The experimental and control groups were given two different tests at the beginning of the experiment. They were given the Social Studies Test, Form A of the National

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[2]H. H. Hahn, "How History May Be Made Real to Children in the Grades," Education, LVIII (September, 1937), 33.

Achievement Tests and the Gray-Votaw Achievement Tests, Form E. These tests were given to find the academic achievement rating of the pupils in September in order that their progress in academic achievement might be measured. They were given different forms of the above tests at the end of the experiment in May.

Table 2 compares the results of the Social Studies Achievement Tests given in September and again in May to the experimental and the control groups. In the experimental group only six pupils failed to raise their scores above the September scores. The experimental group scored 121 points above the September score, and the control group made sixty-six points less than they made in September. Thirteen pupils in the control group failed to score as high in September as they scored in May.

On Form A of the Social Studies Test given in September the control group had an average of forty-one, whereas the experimental group had an average of thirty-seven. On Form B of the same test, the control group had an average of thirty-seven and the experimental group had an average of forty, giving the experimental group a small gain of three average points over the control group.

Since the control group's score was four average points greater than the experimental group's score on the Social Studies Test, Form A given in September, and the experimental

TABLE 2

SCORE ON SOCIAL STUDIES TEST, FORM A AND FORM B OF THE EXPERIMENTAL AND CONTROL GROUPS

| Paired Number of Pupil | Score on Form A | | Score on Form B | |
|---|---|---|---|---|
| | E. G. | C. G. | E. G. | C. G. |
| 1 | 54 | 56 | 47 | 50 |
| 2 | 48 | 35 | 54 | 30 |
| 3 | 53 | 55 | 42 | 49 |
| 4 | 48 | 44 | 52 | 50 |
| 5 | 39 | moved | 42 | .. |
| 6 | 35 | 45 | 40 | 44 |
| 7 | 40 | 52 | 40 | 42 |
| 8 | 49 | 34 | 51 | 36 |
| 9 | 37 | 45 | 41 | 45 |
| 10 | 50 | 41 | 45 | 25 |
| 11 | 35 | 39 | 44 | 42 |
| 12 | 42 | 41 | 45 | 42 |
| 13 | 34 | 45 | 32 | 40 |
| 14 | 34 | 35 | 35 | 37 |
| 15 | 40 | 39 | 51 | 34 |
| 16 | 35 | 45 | 31 | 40 |
| 17 | 26 | 37 | 30 | 37 |
| 18 | 26 | 31 | 33 | 35 |
| 19 | 32 | 43 | 54 | 48 |
| 20 | 38 | 32 | 39 | 22 |
| 21 | moved | 35 | .. | 37 |
| 22 | 30 | 35 | 37 | 41 |
| 23 | 29 | 28 | 33 | 28 |
| 24 | 32 | 37 | 28 | 25 |
| 25 | 29 | 33 | 41 | 30 |
| 26 | 14 | 38 | 30 | 25 |
| Average | 37 | 41 | 40 | 37 |

group gained three points over the control group on Form B given in May, it seemed evident enough that the experience method used in teaching the experimental group was an aid to pupils in gaining knowledge.

Table 3 represents a comparative study of the test scores and the difference of gain of the experimental and the control groups on the Social Studies Test, Form A and Form B from the National Achievement Tests. Table 3 also shows the gain or loss and the difference in progress made by each pupil in the experimental and control groups.

The experimental group gained sixty-six points on Form B over the score on Form A, whereas the control group failed by sixty-six points to score as high on Form B as they had scored on Form A. The experimental group had six pupils who failed to score as high on Form B as they had scored on Form A of the Social Studies Test. The control group had thirteen pupils who failed to score as high on Form B as they had scored on Form A.

As a result of this comparison it is evident that the experience method of teaching was more effective and that the extra instructional activities of the experience method were of assistance to the pupils in gaining knowledge. Only three pupils of the control group scored higher than their pair-mates of the experimental group. Pupil 4 of the control group scored two points above Pupil 4 of the experimental group.

TABLE 3

GAIN OR LOSS ON SOCIAL STUDIES TEST OF THE NATIONAL ACHIEVEMENT TESTS OF THE EXPERIMENTAL AND CONTROL GROUPS

| Paired Number of Pupil | Gain or Loss | | Difference in Progress | |
|---|---|---|---|---|
| | E. G. | C. G. | E. G. | C. G. |
| 1 | -7 | -6 | ... | ... |
| 2 | -16 | -5 | ... | ... |
| 3 | -11 | -6 | ... | ... |
| 4 | 4 | 6 | ... | 2 |
| 5 | 3 | ... | 3 | ... |
| 6 | 5 | -1 | 5 | ... |
| 7 | 0 | -10 | ... | ... |
| 8 | 2 | 2 | ... | ... |
| 9 | 4 | 0 | 4 | ... |
| 10 | -5 | -16 | ... | ... |
| 11 | 9 | 3 | 6 | ... |
| 12 | 3 | 1 | 2 | ... |
| 13 | -2 | -5 | ... | ... |
| 14 | 1 | 2 | ... | 1 |
| 15 | 11 | -5 | 11 | ... |
| 16 | -4 | -5 | ... | ... |
| 17 | 4 | 0 | 4 | ... |
| 18 | 7 | 4 | 3 | ... |
| 19 | 22 | 5 | 17 | ... |
| 20 | 1 | -10 | 1 | ... |
| 21 | ... | 2 | ... | 2 |
| 22 | 7 | 6 | 1 | ... |
| 23 | 4 | 0 | 4 | ... |
| 24 | -4 | -12 | ... | ... |
| 25 | 12 | -3 | 12 | ... |
| 26 | 16 | -13 | 16 | ... |
| Total | 66 | -66 | ... | ... |

Pupil 14 of the control group scored one point more than Pupil 14 of the experimental group.

Table 4 shows the scores and the educational grade of the experimental and control groups on the Social Studies division of the Gray-Votaw Achievement Tests, Form E. This test was given in September.

The experimental group had an average score of sixty, with an educational grade of five years and seven months. Only ten pupils rated an educational grade of eight years or above. Pupil 7, Pupil 11, Pupil 12, and Pupil 13 of the upper 50 per cent of the mental age fell below the educational grade of eight years in which they were actually placed.

The control group had an average of sixty-two, with an educational grade of five years and nine months. Only seven pupils of the control group rated an educational grade of eight years or above. Pupil 1, Pupil 4, Pupil 8, Pupil 9, Pupil 10, Pupil 12, and Pupil 13 of the upper 50 per cent of the mental age failed to rate an educational grade of eight years.

Pupil 2 of the experimental group made a score of eighty-five, which gave him an educational grade of ten years and seven months, and Pupil 2 of the control group made a score of eighty-one, which gave him an educational grade of nine years and six months. Pupil 13 of the experimental group

TABLE 4

SCORES AND EDUCATIONAL GRADE OF THE EXPERIMENTAL AND CONTROL GROUPS ON SOCIAL STUDIES DIVISION FROM THE GRAY-VOTAW ACHIEVEMENT TESTS, FORM E

| Paired Number of Pupil | Scores | | Educational Grade | |
|---|---|---|---|---|
| | E. G. | C. G. | E. G. | C. G. |
| 1 | 80 | 71 | 9-4 | 7-4 |
| 2 | 85 | 81 | 10-7 | 9-6 |
| 3 | 77 | 78 | 8-6 | 8-8 |
| 4 | 79 | 72 | 9-1 | 7-6 |
| 5 | 74 | 85 | 8-0 | 10-7 |
| 6 | 77 | 81 | 8-6 | 9-6 |
| 7 | 61 | 85 | 5-8 | 10-7 |
| 8 | 81 | 48 | 9-6 | 4-5 |
| 9 | 74 | 71 | 8-0 | 7-4 |
| 10 | 72 | 55 | 7-6 | 5-1 |
| 11 | 62 | 79 | 5-9 | 9-1 |
| 12 | 46 | 66 | 4-3 | 6-5 |
| 13 | 39 | 67 | 3-7 | 6-7 |
| 14 | 54 | 57 | 5-0 | 5-3 |
| 15 | 79 | 51 | 9-1 | 4-7 |
| 16 | 43 | 77 | 4-0 | 8-6 |
| 17 | 54 | 54 | 5-0 | 5-0 |
| 18 | 46 | 40 | 4-3 | 3-8 |
| 19 | 55 | 55 | 5-1 | 5-1 |
| 20 | 48 | 44 | 4-5 | 4-1 |
| 21 | 74 | 57 | 8-0 | 4-7 |
| 22 | 45 | 46 | 4-2 | 4-3 |
| 23 | 38 | 54 | 3-6 | 5-0 |
| 24 | 43 | 71 | 4-0 | 7-4 |
| 25 | 43 | 48 | 4-0 | 4-5 |
| 26 | 40 | 47 | 3-8 | 4-4 |
| Average | 60 | 62 | 5-7 | 5-9 |

made a low score of thirty-nine, which gave an educational grade of three years and seven months, whereas Pupil 13 of the control group made a score of sixty-seven, which gave an educational grade of six years and seven months.

Table 5 shows the scores and the educational grades of the experimental and control groups on the Social Studies division from the Gray-Votaw Achievement Tests, Form G which was given at the end of the experiment in May. The experimental group made an average score of seventy, and the control group made an average of seventy-three. From these data it seemed that the experience method failed to get results, but there were so many things that could have entered into the experiment and have caused a change in the procedure for gaining information.

There are many things that could have been responsible for the experimental group's not gaining as many points as the control group gained rather than a failure in the method of teaching used. Pupil 3 of the experimental group decided that since her aunt was teacher of that group if she did her best work the other pupils would say her grades were given to her, and she refused to progress as much as her ability merited. The teacher was aware of this complex, but she was unable to help the child in removing the complex until it was too late.

According to mental age the pupils of the lower 50 per cent of either group did not progress very far on the Social

TABLE 5

SCORES AND EDUCATIONAL GRADE OF THE EXPERIMENTAL AND CONTROL GROUPS ON SOCIAL STUDIES DIVISION FROM THE GRAY-VOTAW ACHIEVEMENT TESTS, FORM G

| Paired Number of Pupil | Scores | | Educational Grade | |
|---|---|---|---|---|
| | E. G. | C. G. | E. G. | C. G. |
| 1 | 83 | 79 | 10-2 | 9-1 |
| 2 | 88 | 76 | 11-6 | 8-4 |
| 3 | 84 | 80 | 10-5 | 9-4 |
| 4 | 86 | 88 | 11-1 | 11-6 |
| 5 | 81 | moved | 9-6 | ... |
| 6 | 73 | 81 | 8-0 | 9-6 |
| 7 | 70 | 92 | 7-2 | 12* |
| 8 | 77 | 80 | 8-6 | 9-4 |
| 9 | 84 | 83 | 10-5 | 10-2 |
| 10 | 83 | 76 | 10-2 | 8-4 |
| 11 | 76 | 88 | 8-4 | 11-6 |
| 12 | 70 | 82 | 7-2 | 9-9 |
| 13 | 73 | 73 | 7-8 | 7-6 |
| 14 | 68 | 71 | 6-8 | 7-4 |
| 15 | 86 | 65 | 11-1 | 6-3 |
| 16 | 59 | 83 | 5-6 | 10-2 |
| 17 | 61 | 76 | 5-8 | 8-4 |
| 18 | 61 | 54 | 5-8 | 5-0 |
| 19 | 50 | 71 | 4-6 | 7-4 |
| 20 | 80 | 62 | 9-4 | 5-9 |
| 21 | moved | 55 | ... | 5-1 |
| 22 | 42 | 67 | 3-9 | 6-7 |
| 23 | 52 | 59 | 4-8 | 5-6 |
| 24 | 51 | 65 | 4-7 | 6-3 |
| 25 | 57 | 51 | 5-3 | 4-7 |
| 26 | 42 | 68 | 3-9 | 6-8 |
| Average | 70 | 73 | 7-2 | 7-8 |

*The chart did not give the norms above grade twelve.

Studies division; Pupil 15 and Pupil 20 of the experimental group and Pupil 16 of the control group were exceptions. Pupil 7 of the control group scored above the given norm of the educational grade. The Profile Chart for the test did not give the grade placement above the twelfth grade.

Table 6 shows the gain or loss each pupil in the experimental and the control groups made on the Social Studies division from the Gray-Votaw Achievement Tests. According to these data the control group scored twenty-eight points more than the experimental group.

The largest gain occurred in the medium mental age pairs in both the experimental and control groups. In the control group the largest gain began with Pupil 8 and extended through Pupil 20, with Pupil 22 and Pupil 26 adding a large gain. The experimental group showed the largest gain from Pupil 9 through Pupil 25, with the exception of Pupil 19 and Pupil 22, who failed to score as high as they had scored on the previous test.

## General Achievements of Experimental and Control Groups

All school achievements must be measured if the real value of the experiment of using the experience method of teaching proves to be worthwhile. In September the Gray-Votaw Achievement Tests, Form E was given to the twenty-six pairs of boys and girls who had been paired according

TABLE 6

GAIN OR LOSS OF THE EXPERIMENTAL AND CONTROL GROUPS ON SOCIAL STUDIES DIVISION FROM THE GRAY-VOTAW ACHIEVEMENT TESTS

| Paired Number of Pupil | Gain or Loss | | Difference in Progress | |
|---|---|---|---|---|
| | E. G. | C. G. | E. G. | C. G. |
| 1 | 3 | 8 | ... | 5 |
| 2 | 3 | -5 | 3 | ... |
| 3 | 7 | 2 | 5 | ... |
| 4 | 7 | 16 | ... | 9 |
| 5 | 7 | moved | 7 | ... |
| 6 | -4 | 0 | ... | ... |
| 7 | 9 | 7 | 2 | ... |
| 8 | -4 | 32 | ... | 32 |
| 9 | 10 | 12 | ... | 2 |
| 10 | 11 | 21 | ... | 10 |
| 11 | 14 | 9 | 5 | ... |
| 12 | 24 | 16 | 8 | ... |
| 13 | 34 | 6 | 28 | ... |
| 14 | 14 | 14 | ... | ... |
| 15 | 7 | 14 | ... | 7 |
| 16 | 16 | 6 | 10 | ... |
| 17 | 7 | 22 | ... | 15 |
| 18 | 15 | 14 | 1 | ... |
| 19 | -5 | 16 | ... | 16 |
| 20 | 32 | 18 | 14 | ... |
| 21 | moved | -2 | ... | ... |
| 22 | -3 | 21 | ... | 21 |
| 23 | 14 | 5 | 9 | ... |
| 24 | 8 | -6 | 8 | ... |
| 25 | 14 | 3 | 11 | ... |
| 26 | 2 | 21 | ... | 19 |
| Total | 242 | 270 | ... | ... |

to mental age by the California Test of Mental Maturity. They were given the achievement tests for three main reasons: that their achievement rating might be known, that the progress of achievement for the school term might be measured, and that the influence of the two methods of teaching on the academic achievements and personality of the pupils might be ascertained.

Table 7 shows the total average scores of the achievements measured by the Gray-Votaw Achievement Tests, Form E given in September and the educational grade represented by each score made by the pupils in the experimental and control groups. The experimental group had an average score of seventy-one, and the control group had an average score of seventy-three. The experimental group had an educational grade of seven years and four months, and the control group had an educational grade of seven years and eight months. Pupil 1, Pupil 2, and Pupil 3 of both groups scored high on the first test given. Pupil 8 of the experimental group and Pupil 5 of the control group also scored high on that test.

Table 8 gives the average scores and the educational grades of each pupil in the experimental and control groups on the Gray-Votaw Achievement Tests, Form G that was given in May. The average score of the experimental group on the test given in May was eighty-three. The average score of

TABLE 7

AVERAGE SCORE AND EDUCATIONAL GRADE OF EACH PUPIL IN THE EXPERIMENTAL AND CONTROL GROUPS ON THE GRAY-VOTAW ACHIEVEMENT TESTS, FORM E

| Paired Number of Pupil | Average Scores | | Educational Grade | |
|---|---|---|---|---|
| | E. G. | C. G. | E. G. | C. G. |
| 1 | 85 | 87 | 10-7 | 11-4 |
| 2 | 84 | 81 | 10-5 | 9-6 |
| 3 | 85 | 85 | 10-7 | 10-7 |
| 4 | 77 | 78 | 8-6 | 8-8 |
| 5 | 81 | 87 | 9-6 | 11-4 |
| 6 | 81 | 76 | 9-6 | 8-4 |
| 7 | 78 | 80 | 8-8 | 9-4 |
| 8 | 83 | 66 | 10-0 | 6-5 |
| 9 | 74 | 77 | 8-0 | 8-6 |
| 10 | 77 | 70 | 8-6 | 7-2 |
| 11 | 72 | 80 | 7-6 | 9-4 |
| 12 | 71 | 78 | 7-4 | 8-8 |
| 13 | 66 | 73 | 6-5 | 7-8 |
| 14 | 71 | 69 | 7-4 | 7-0 |
| 15 | 80 | 74 | 9-4 | 8-0 |
| 16 | 63 | 83 | 6-0 | 10-2 |
| 17 | 65 | 69 | 6-3 | 7-0 |
| 18 | 60 | 60 | 5-7 | 5-7 |
| 19 | 70 | 60 | 7-2 | 5-7 |
| 20 | 69 | 65 | 7-0 | 6-3 |
| 21 | 73 | 72 | 7-8 | 7-6 |
| 22 | 65 | 62 | 6-3 | 5-9 |
| 23 | 54 | 54 | 5-0 | 5-0 |
| 24 | 60 | 75 | 5-7 | 8-2 |
| 25 | 61 | 65 | 5-8 | 6-3 |
| 26 | 50 | 68 | 4-6 | 6-8 |
| Average | 71 | 73 | 7-4 | 7-8 |

the control group was seventy-eight on the same test given in May.

TABLE 8

AVERAGE SCORE AND EDUCATIONAL GRADE OF EACH PUPIL IN THE EXPERIMENTAL AND CONTROL GROUPS ON THE GRAY-VOTAW ACHIEVEMENT TESTS, FORM G

| Paired Number of Pupil | Average Scores | | Educational Grade | |
|---|---|---|---|---|
| | E. G. | C. G. | E. G. | C. G. |
| 1 | 87 | 91 | 11-4 | 12* |
| 2 | 90 | 85 | 12* | 10-7 |
| 3 | 84 | 81 | 10-5 | 9-6 |
| 4 | 80 | 85 | 9-4 | 10-7 |
| 5 | 79 | moved | 8-6 | ... |
| 6 | 82 | 82 | 9-9 | 9-9 |
| 7 | 82 | 86 | 9-9 | 11-1 |
| 8 | 88 | 79 | 11-6 | 9-1 |
| 9 | 81 | 86 | 9-6 | 11-1 |
| 10 | 82 | 72 | 9-9 | 7-6 |
| 11 | 80 | 87 | 9-4 | 11-4 |
| 12 | 79 | 84 | 9-1 | 10-5 |
| 13 | 80 | 78 | 9-4 | 8-8 |
| 14 | 73 | 75 | 7-8 | 8-2 |
| 15 | 84 | 74 | 10-5 | 8-0 |
| 16 | 76 | 83 | 7-8 | 10-2 |
| 17 | 65 | 78 | 6-3 | 8-8 |
| 18 | 70 | 69 | 7-2 | 7-0 |
| 19 | 74 | 76 | 8-0 | 8-4 |
| 20 | 74 | 73 | 8-0 | 7-8 |
| 21 | moved | 75 | ... | 8-2 |
| 22 | 71 | 69 | 7-4 | 7-0 |
| 23 | 66 | 65 | 6-5 | 6-0 |
| 24 | 74 | 69 | 8-0 | 7-0 |
| 25 | 70 | 64 | 7-2 | 6-2 |
| 26 | 59 | 76 | 5-6 | 8-4 |
| Average | 83 | 78 | 9-6 | 8-8 |

*The Profile Chart did not give the norm above the twelfth grade.

The average educational grade for the experimental group was nine years and six months, and the educational grade for the control group was eight years and eight months. There were two pupils who scored above the twelfth grade, one in the experimental group and one in the control group. The Profile Chart for the test did not give the norm above that grade.

It can be seen from Table 8 that all the pupils in the experimental group with the exception of eight pupils had an educational grade above their school grade. In the control group there were only six pupils who failed to make the educational grade of eight years.

Table 9 shows the gain or loss of each pupil in the experimental and control groups on the Gray-Votaw Achievement Tests that were given in September and again in May. Only two pupils in the experimental group failed to score as high on Form G of the Gray-Votaw Achievement Tests as they had scored on Form E of the same test. Pupil 13 made an increase of fourteen points; Pupil 16 made a gain of thirteen points; Pupil 18 made a gain of ten points; Pupil 23 made a gain of twelve points, and Pupil 24 made a gain of fourteen points. The rest of the group made only small gains.

In the control group three pupils failed to score as high as they had scored on Form E of the Test given in September. Pupil 8 of the control group gained thirteen points above the previous test; Pupil 9 and Pupil 17 gained nine; Pupil 19

gained sixteen, and Pupil 23 gained eleven points over their previous scores. The rest of the group made very small gains.

TABLE 9

GAIN OR LOSS AND THE DIFFERENCE IN PROGRESS OF THE EXPERIMENTAL AND CONTROL GROUPS ON THE GRAY-VOTAW ACHIEVEMENT TESTS

| Paired Number of Pupil | Gain or Loss | | Difference in Progress | |
|---|---|---|---|---|
| | E. G. | C. G. | E. G. | C. G. |
| 1 | 2 | 4 | ... | 2 |
| 2 | 6 | 4 | 2 | ... |
| 3 | -1 | -4 | 3 | ... |
| 4 | 3 | 7 | ... | 4 |
| 5 | -4 | moved | 4 | ... |
| 6 | 1 | 6 | ... | 6 |
| 7 | 4 | 6 | ... | 2 |
| 8 | 5 | 13 | ... | 8 |
| 9 | 7 | 9 | ... | 2 |
| 10 | 5 | 2 | 3 | ... |
| 11 | 8 | 7 | 1 | ... |
| 12 | 8 | 6 | 2 | ... |
| 13 | 14 | 5 | 9 | ... |
| 14 | 2 | 6 | ... | 4 |
| 15 | 4 | 0 | 4 | ... |
| 16 | 13 | 0 | 13 | ... |
| 17 | 0 | 9 | ... | 9 |
| 18 | 10 | 9 | 1 | ... |
| 19 | 4 | 16 | ... | 12 |
| 20 | 5 | 8 | ... | 3 |
| 21 | moved | 3 | ... | 3 |
| 22 | 6 | 7 | ... | 1 |
| 23 | 12 | 11 | 1 | ... |
| 24 | 14 | -6 | 8 | ... |
| 25 | 9 | -1 | 8 | ... |
| 26 | 9 | 8 | 1 | ... |
| Total | 146 | 139 | ... | ... |

Table 9 reveals the fact that the experimental group had a gain of seven points more than the control group. This proved that no damage was done to the experimental group by the experience method of teaching. Each pupil made steady progress through the term. It can be seen that the pupils of the experimental group, graded by tests prepared for the traditional program, did not fall below the scores of those taught by the traditional method. The pupils of the experimental group did not lessen their achievements even though the drill periods were reduced.

Literature and reading were so closely related to social studies that it seemed very fitting to include those tests separate from the general test in comparing the work done by both the groups under study. The results on the literature test from the Gray-Votaw Achievement Tests, Form E are given in Table 10. The literature score and the educational grade are given for each pupil in the experimental and the control groups. The control group had an average score of seventy-one, and the experimental group scored seventy.

The lower 50 per cent according to mental age scored very low on this test in both the experimental and the control groups. From Pupil 23 to Pupil 26 in the experimental group the educational grade was four years and five months, four grades below their school grade. The control group was very little different from the experimental group in regard to the scores made on the test.

TABLE 10

SCORES AND EDUCATIONAL GRADE ON LITERATURE FROM THE GRAY-VOTAW ACHIEVEMENT TESTS, FORM E OF THE EXPERIMENTAL AND CONTROL GROUPS

| Paired Number of Pupil | Scores | | Educational Grade | |
|---|---|---|---|---|
| | E. G. | C. G. | E. G. | C. G. |
| 1 | 87 | 89 | 11-4 | 12-0 |
| 2 | 87 | 86 | 11-4 | 11-1 |
| 3 | 81 | 89 | 9-6 | 12-0 |
| 4 | 84 | 75 | 10-5 | 8-2 |
| 5 | 87 | 87 | 11-4 | 11-4 |
| 6 | 89 | 80 | 12-0 | 9-4 |
| 7 | 74 | 84 | 7-8 | 10-5 |
| 8 | 94 | 56 | 12* | 5-2 |
| 9 | 73 | 69 | 7-8 | 7-0 |
| 10 | 74 | 76 | 8-0 | 8-4 |
| 11 | 72 | 77 | 7-6 | 8-6 |
| 12 | 65 | 69 | 6-3 | 7-0 |
| 13 | 65 | 60 | 6-3 | 5-7 |
| 14 | 58 | 73 | 5-4 | 7-8 |
| 15 | 87 | 85 | 11-4 | 8-2 |
| 16 | 47 | 80 | 4-4 | 9-4 |
| 17 | 67 | 48 | 6-7 | 4-5 |
| 18 | 52 | 73 | 4-8 | 7-8 |
| 19 | 73 | 72 | 7-8 | 7-6 |
| 20 | 70 | 58 | 7-2 | 5-4 |
| 21 | 76 | 73 | 8-4 | 7-8 |
| 22 | 69 | 48 | 7-0 | 4-5 |
| 23 | 49 | 50 | 4-5 | 4-6 |
| 24 | 50 | 72 | 4-6 | 7-6 |
| 25 | 49 | 75 | 4-5 | 8-2 |
| 26 | 48 | 63 | 4-5 | 6-0 |
| Average | 70 | 71 | 7-2 | 7-4 |

*The Profile Chart did not give the norms for scores above the twelfth grade.

In the experimental group, of the upper 50 per cent according to mental age all the pupils except five had a score above an educational grade of eight years. In the control group only three pupils of the upper 50 per cent according to mental age had an educational grade above eight years.

Table 11 shows the results on the literature test from the Gray Votaw Achievement Tests, Form G of the experimental and the control groups. The scores on this test are rather low for both groups. It is difficult to know just where to place the blame for this low rating of both the groups. It is possible that it goes back to the lack of knowledge gained in the previous years in school. It would be impossible under any method of teaching to gain all the information asked for in those tests in any one year.

Pupil 8 of the experimental group scored above the educational grades given on the Profile Chart for the test, whereas Pupil 8 of the control group scored an educational grade of seven years and six months. Pupil 12 of the experimental group scored an educational grade of five years and seven months, whereas the same pupil of the control group scored an educational grade of eleven years and four months.

By these results it may appear that nothing was taught either group of children. Only five pupils in the experimental

TABLE 11

SCORES AND EDUCATIONAL GRADE ON LITERATURE FROM THE GRAY-VOTAW ACHIEVEMENT TESTS, FORM G OF THE EXPERIMENTAL AND CONTROL GROUPS

| Paired Number of Pupil | Scores | | Educational Grade | |
|---|---|---|---|---|
| | E. G. | C. G. | E. G. | C. G. |
| 1 | 88 | 76 | 11-6 | 8-4 |
| 2 | 82 | 78 | 9-9 | 8-8 |
| 3 | 78 | 85 | 8-8 | 10-7 |
| 4 | 81 | 68 | 9-6 | 6-8 |
| 5 | 68 | moved | 6-8 | ... |
| 6 | 76 | 85 | 8-4 | 10-7 |
| 7 | 78 | 72 | 8-8 | 7-6 |
| 8 | 95 | 72 | 12* | 7-6 |
| 9 | 78 | 85 | 8-8 | 8-2 |
| 10 | 66 | 65 | 6-5 | 6-3 |
| 11 | 78 | 85 | 8-8 | 10-7 |
| 12 | 60 | 87 | 5-7 | 11-4 |
| 13 | 72 | 81 | 7-6 | 9-6 |
| 14 | 51 | 67 | 4-7 | 6-7 |
| 15 | 77 | 65 | 8-6 | 6-3 |
| 16 | 74 | 87 | 8-0 | 11-4 |
| 17 | 51 | 62 | 4-7 | 5-9 |
| 18 | 77 | 69 | 8-6 | 7-0 |
| 19 | 72 | 76 | 7-8 | 8-4 |
| 20 | 76 | 60 | 8-4 | 5-7 |
| 21 | moved | 89 | ... | 12-0 |
| 22 | 72 | 69 | 7-6 | 7-0 |
| 23 | 57 | 62 | 5-3 | 5-9 |
| 24 | 81 | 74 | 9-6 | 8-0 |
| 25 | 49 | 69 | 4-5 | 7-0 |
| 26 | 45 | 69 | 4-2 | 7-0 |
| Average | 71 | 73 | 7-4 | 7-8 |

*The Profile Chart did not give the norms for scores above the twelfth grade.

group scored high enough for an educational grade of nine years, and only seven of the control group scored enough for an educational grade of nine years. The experimental group made an average score of seventy-one on Form G of the Gray-Votaw Achievement Tests, and the control group made an average score of seventy-three.

Table 12 shows the gain or loss of each pupil in the experimental and the control groups and the difference in the progress each pupil made. Pupil 8 of the control group scored sixteen points above the previous test score. Pupil 12 scored eighteen, Pupil 13 scored twenty-one, Pupil 21 scored sixteen, and Pupil 22 scored twenty-one points above the previous scores made on the test given in September. The remaining pupils of the control group made very little progress. In fact nine out of the twenty-six made below the scores they had made on Form E given in September.

In the experimental group Pupil 16 had an increase of sixteen points above Form E of the literature test from the Gray-Votaw Achievement Tests given in September. Pupil 18 made twenty-five points, Pupil 24 gained thirty-one points above the test given in September. The remaining pupils made very slight gains, with an average of only one point gain for the entire group. The control group showed an average gain of two points.

TABLE 12

GAIN OR LOSS AND THE DIFFERENCE IN PROGRESS ON LITERATURE FROM THE GRAY-VOTAW ACHIEVEMENT TESTS OF THE EXPERIMENTAL AND CONTROL GROUPS

| Paired Number of Pupil | Gain or Loss | | Difference in Progress | |
|---|---|---|---|---|
| | E. G. | C. G. | E. G. | C. G. |
| 1 | 1 | -13 | 1 | ... |
| 2 | -5 | -8 | ... | ... |
| 3 | -3 | -4 | ... | ... |
| 4 | -3 | -7 | ... | ... |
| 5 | -19 | ... | ... | ... |
| 6 | -13 | 5 | ... | 5 |
| 7 | 4 | -1 | 4 | ... |
| 8 | 1 | 16 | ... | 15 |
| 9 | 5 | 6 | ... | 1 |
| 10 | -8 | -11 | ... | ... |
| 11 | 6 | 8 | ... | 2 |
| 12 | -5 | 18 | ... | 18 |
| 13 | 7 | 21 | ... | 14 |
| 14 | -7 | -6 | ... | ... |
| 15 | -10 | -10 | ... | ... |
| 16 | 27 | 7 | 20 | ... |
| 17 | -16 | 14 | ... | 14 |
| 18 | 25 | -4 | 25 | ... |
| 19 | -1 | 4 | ... | 4 |
| 20 | 6 | 2 | 4 | ... |
| 21 | ... | 16 | ... | 16 |
| 22 | 3 | 21 | ... | 18 |
| 23 | 8 | 12 | ... | 4 |
| 24 | 31 | 2 | 29 | ... |
| 25 | 0 | -6 | ... | ... |
| 26 | -3 | 6 | ... | 6 |
| Total | 21 | 88 | ... | ... |

Table 13 shows the score and the educational grade of the experimental and the control groups on the reading vocabulary test from the Gray-Votaw Achievement Tests, Form E.

TABLE 13

SCORE AND EDUCATIONAL GRADE OF THE EXPERIMENTAL AND CONTROL GROUPS ON READING VOCABULARY FROM THE GRAY-VOTAW ACHIEVEMENT TESTS, FORM E

| Paired Number of Pupil | Scores | | Educational Grade | |
|---|---|---|---|---|
| | E. G. | C. G. | E. G. | C. G. |
| 1 | 89 | 89 | 12-0 | 12-0 |
| 2 | 87 | 89 | 11-4 | 12-0 |
| 3 | 91 | 88 | 12* | 11-6 |
| 4 | 79 | 77 | 9-1 | 9-6 |
| 5 | 77 | 92 | 8-6 | 12* |
| 6 | 77 | 75 | 8-6 | 8-2 |
| 7 | 78 | 78 | 8-8 | 8-8 |
| 8 | 84 | 73 | 10-5 | 7-8 |
| 9 | 70 | 84 | 7-2 | 10-5 |
| 10 | 80 | 70 | 9-4 | 7-2 |
| 11 | 65 | 78 | 6-3 | 8-8 |
| 12 | 73 | 86 | 7-8 | 11-1 |
| 13 | 66 | 86 | 6-5 | 11-1 |
| 14 | 77 | 65 | 8-6 | 6-3 |
| 15 | 75 | 77 | 8-2 | 9-6 |
| 16 | 62 | 91 | 5-9 | 12* |
| 17 | 73 | 72 | 7-8 | 7-6 |
| 18 | 54 | 68 | 5-0 | 6-8 |
| 19 | 64 | 65 | 6-2 | 6-3 |
| 20 | 72 | 69 | 7-6 | 7-0 |
| 21 | 74 | 76 | 8-0 | 8-4 |
| 22 | 71 | 60 | 7-4 | 5-7 |
| 23 | 47 | 43 | 4-4 | 4-0 |
| 24 | 75 | 78 | 8-2 | 8-8 |
| 25 | 70 | 58 | 7-2 | 5-4 |
| 26 | 56 | 73 | 5-2 | 7-8 |
| Average | 72 | 75 | 7-6 | 8-2 |

*The Profile Chart did not give the norms for scores above the twelfth grade.

The control group made three average score points more than the experimental group made on Form E of the test that was given in September. There was one pupil in the experimental group who rated above the twelfth grade and two in the control group who rated as high. The Profile Chart for the test did not give the norms for scores that high; therefore the exact educational grade could not be given.

Pupil 16 of the experimental group had an educational grade of five years and nine months, whereas Pupil 16 of the control group had an educational grade above twelve years. Table 13 reveals the fact that in the experimental group there were only eight pupils of the twenty-six who scored high enough on their reading test to be rated in their present school grade level. There were fifteen pupils in the control group who rated their school grade or above.

Table 14 shows the scores and the educational grade of each pupil in the experimental and the control groups on the reading vocabulary division from the Gray-Votaw Achievement Test, Form G. The experimental group made a total gain of 190 points on the reading vocabulary division over the test score made in September. The control group made a total score of 148, giving a difference of forty-two points in the two groups. The largest gain was in the lower 50 per cent of the mental age group of the experimental group. This seemed to be a very decided point in favor of the experience

method of teaching, for they were the pupils who needed guidance and help in knowing what to do.

TABLE 14

SCORE AND EDUCATIONAL GRADE OF THE EXPERIMENTAL AND CONTROL GROUPS ON READING VOCABULARY FROM THE GRAY-VOTAW ACHIEVEMENT TESTS, FORM G

| Paired Number of Pupil | Scores | | Educational Grade | |
|---|---|---|---|---|
| | E. G. | C. G. | E. G. | C. G. |
| 1 | 91 | 96 | 12* | 12* |
| 2 | 91 | 93 | 12* | 12* |
| 3 | 87 | 88 | 11-4 | 11-6 |
| 4 | 76 | 89 | 8-4 | 12-0 |
| 5 | 79 | moved | 9-1 | ... |
| 6 | 93 | 79 | 12* | 9-1 |
| 7 | 87 | 82 | 11-4 | 9-9 |
| 8 | 88 | 77 | 11-6 | 8-6 |
| 9 | 91 | 91 | 12* | 12* |
| 10 | 90 | 70 | 12* | 7-2 |
| 11 | 74 | 85 | 8-0 | 10-7 |
| 12 | 90 | 90 | 12* | 12* |
| 13 | 78 | 75 | 8-8 | 8-2 |
| 14 | 77 | 78 | 8-6 | 8-8 |
| 15 | 78 | 82 | 8-8 | 9-9 |
| 16 | 77 | 91 | 8-6 | 12* |
| 17 | 79 | 79 | 9-1 | 9-1 |
| 18 | 67 | 74 | 6-7 | 8-0 |
| 19 | 69 | 75 | 7-0 | 8-2 |
| 20 | 75 | 86 | 8-2 | 11-1 |
| 21 | ... | 85 | ... | 10-7 |
| 22 | 76 | 81 | 8-4 | 9-6 |
| 23 | 63 | 65 | 6-0 | 6-3 |
| 24 | 80 | 55 | 9-4 | 5-1 |
| 25 | 75 | 75 | 8-2 | 8-2 |
| 26 | 71 | 85 | 7-4 | 10-7 |
| Average | 80 | 77 | 9-4 | 8-6 |

*The Profile Chart did not give the norms for scores above the twelfth grade.

The control group was seventy-four points ahead of the experimental group on this test in September. On the test given in May the experimental group gained enough so that its average score exceeded that of the control group by three points. Pupil 6, Pupil 9, Pupil 12, Pupil 16, Pupil 23, Pupil 25, and Pupil 26 of the experimental group gained fifteen or more points on this test.

The gain made by the experimental group can be attributed to the amount of reading the pupils wanted to do to find the information they were seeking to solve their problems. The pupils of the experimental group read the books and stories that told of the type of living in each epoch of the country in which they were interested.

Table 15 compares the two groups as to the gain made over the September scores on the reading vocabulary division of the Gray-Votaw Achievement Tests given in May. It gives the difference of points each paired pupil made. Pupil 13 of the experimental group gained twelve points over his September score, whereas Pupil 13 of the control group failed by eleven points to score as much as she did in the September total score. Pupil 16 of the experimental group scored fifteen points over his September score, whereas Pupil 16 of the control group failed to gain any. Pupil 24 of the experimental group gained five points over his September score, but Pupil 24 of the control group failed by twenty-three points to score as much as he had scored in September.

TABLE 15

GAIN OR LOSS AND THE DIFFERENCE IN PROGRESS OF THE EXPERIMENTAL AND CONTROL GROUPS ON READING VOCABULARY FROM THE GRAY-VOTAW ACHIEVEMENT TESTS

| Paired Number of Pupil | Gain or Loss | | Difference in Progress | |
|---|---|---|---|---|
| | E. G. | C. G. | E. G. | C. G. |
| 1 | 2 | 7 | ... | 5 |
| 2 | 4 | 4 | ... | ... |
| 3 | -4 | 0 | ... | ... |
| 4 | -3 | 12 | ... | 12 |
| 5 | 2 | ... | 2 | ... |
| 6 | 16 | 4 | 12 | ... |
| 7 | 9 | 4 | 5 | ... |
| 8 | 4 | 4 | ... | ... |
| 9 | 21 | 7 | 14 | ... |
| 10 | 10 | 0 | 10 | ... |
| 11 | 9 | 7 | 2 | ... |
| 12 | 17 | 4 | 13 | ... |
| 13 | 12 | -11 | 12 | ... |
| 14 | 0 | 13 | ... | 13 |
| 15 | 3 | 5 | ... | 2 |
| 16 | 15 | 0 | 15 | ... |
| 17 | 6 | 7 | ... | 1 |
| 18 | 13 | 6 | 7 | ... |
| 19 | 5 | 10 | ... | 5 |
| 20 | 3 | 17 | ... | 14 |
| 21 | ... | 9 | ... | 9 |
| 22 | 5 | 21 | ... | 16 |
| 23 | 16 | 12 | 4 | ... |
| 24 | 5 | -23 | 5 | ... |
| 25 | 5 | 17 | ... | 12 |
| 26 | 15 | 12 | 3 | ... |
| Average | 190 | 148 | ... | ... |

The largest gain of the experimental group in this test occurred from Pupil 9 to Pupil 17, where a total of sixty-six points of gain appeared from six pupils. This was probably due to over-confidence of the eight upper mental age students and the outside activities in which all participated. The girls belonged to the Rainbow organization, whereas the boys of the group were on Student Patrol Duty each day.

The largest gain in the control group occurred from Pupil 19 to Pupil 26, with the exception of Pair 24. These children had very little outside activity; therefore they had plenty of time for study.

The results of the reading comprehension division from the Gray-Votaw Achievement Tests were compared to determine the influence that the experience and traditional methods of teaching had on the reading comprehension of each pupil in the experimental and control groups. Table 16 shows the scores and the educational grade on the reading comprehension division from the Gray-Votaw Achievement Tests which were given in September.

The results of the tests show that both groups scored rather high on the reading test. The average educational grade for the experimental group was eight years and four months, and for the control group it was eight years and six months. The average educational grade was above the school grade level for both groups at the beginning of the experiment.

TABLE 16

SCORE AND EDUCATIONAL GRADE OF THE EXPERIMENTAL AND CONTROL GROUPS ON READING COMPREHENSION FROM THE GRAY-VOTAW ACHIEVEMENT TESTS, FORM E

| Paired Number of Pupil | Scores | | Educational Grade | |
|---|---|---|---|---|
| | E. G. | C. G. | E. G. | C. G. |
| 1 | 89 | 94 | 9-4 | 12* |
| 2 | 92 | 93 | 12* | 12* |
| 3 | 95 | 92 | 12* | 12* |
| 4 | 88 | 63 | 11-2 | 6-0 |
| 5 | 78 | 95 | 8-8 | 12* |
| 6 | 83 | 82 | 10-2 | 9-9 |
| 7 | 82 | 88 | 9-9 | 11-6 |
| 8 | 85 | 75 | 10-7 | 8-2 |
| 9 | 75 | 79 | 8-2 | 9-1 |
| 10 | 85 | 74 | 10-7 | 8-0 |
| 11 | 72 | 83 | 7-6 | 10-2 |
| 12 | 83 | 85 | 10-2 | 10-7 |
| 13 | 70 | 84 | 7-2 | 10-5 |
| 14 | 76 | 51 | 8-4 | 4-7 |
| 15 | 85 | 83 | 10-7 | 10-2 |
| 16 | 69 | 90 | 7-0 | 12* |
| 17 | 69 | 81 | 7-0 | 9-6 |
| 18 | 67 | 61 | 6-7 | 5-8 |
| 19 | 80 | 64 | 9-4 | 6-2 |
| 20 | 74 | 54 | 8-0 | 5-0 |
| 21 | 80 | 80 | 9-4 | 9-4 |
| 22 | 69 | 67 | 7-0 | 6-7 |
| 23 | 54 | 52 | 5-0 | 4-8 |
| 24 | 67 | 76 | 6-7 | 8-4 |
| 25 | 69 | 72 | 7-0 | 7-6 |
| 26 | 57 | 75 | 5-3 | 8-2 |
| Average | 76 | 77 | 8-4 | 8-6 |

*The Profile Chart did not give the norms for scores above the twelfth grade.

Pupil 2 and Pupil 3 of the experimental group and Pupil 1, Pupil 2, Pupil 3, Pupil 5, and Pupil 16 of the control group rated an educational grade above the twelfth grade at the beginning of the experiment in September. Pupil 4 of the control group made an educational grade of six years, whereas Pupil 4 of the experimental group made an educational grade of eleven years and two months.

Table 17 shows the score and the educational grade on the reading comprehension division from the Gray-Votaw Achievement Tests of each pupil in the experimental and the control groups in May. The experimental group made a gain of 135 points over the September score on the reading comprehension test, and the control group made a gain of ninety-nine points on the same test. This gave a difference of thirty-six points in favor of the experimental group.

The experimental group had a better chance to read, since they were permitted to search for the information they wanted. These pupils came in contact with other reading material that helped them to find different kinds of information they needed. These children were given free rein to get information when and where possible. They used the high school library at any time they needed to find things that were not in their classroom library. The control group was not allowed to leave their classroom to get information on any subject. They were confined to their own meager library.

TABLE 17

SCORE AND EDUCATIONAL GRADE OF THE EXPERIMENTAL AND CONTROL GROUPS ON READING COMPREHENSION FROM THE GRAY-VOTAW ACHIEVEMENT TESTS, FORM C

| Paired Number of Pupil | Scores | | Educational Grade | |
|---|---|---|---|---|
| | E. G. | C. G. | E. G. | C. G. |
| 1 | 89 | 93 | 12-0 | 12* |
| 2 | 92 | 91 | 12* | 12* |
| 3 | 94 | 93 | 12* | 12* |
| 4 | 82 | 67 | 9-9 | 6-7 |
| 5 | 78 | ... | 8-8 | ... |
| 6 | 91 | 89 | 12* | 12-0 |
| 7 | 91 | 88 | 12* | 11-6 |
| 8 | 93 | 83 | 12* | 10-2 |
| 9 | 88 | 95 | 11-6 | 12* |
| 10 | 93 | 70 | 12* | 7-2 |
| 11 | 83 | 88 | 10-2 | 11-6 |
| 12 | 89 | 90 | 12-0 | 12* |
| 13 | 85 | 74 | 10-7 | 8-0 |
| 14 | 74 | 79 | 8-0 | 9-1 |
| 15 | 88 | 76 | 11-6 | 8-4 |
| 16 | 74 | 91 | 8-0 | 12* |
| 17 | 69 | 77 | 7-0 | 8-6 |
| 18 | 70 | 72 | 7-2 | 7-6 |
| 19 | 80 | 77 | 9-4 | 8-6 |
| 20 | 73 | 73 | 7-8 | 7-8 |
| 21 | ... | 88 | ... | 11-6 |
| 22 | 76 | 62 | 8-4 | 5-9 |
| 23 | 77 | 62 | 8-6 | 5-9 |
| 24 | 69 | 64 | 7-0 | 6-2 |
| 25 | 79 | 75 | 9-1 | 8-2 |
| 26 | 62 | 80 | 5-9 | 9-4 |
| Average | 81 | 79 | 9-6 | 9-1 |

*The Profile Chart did not give the norms for scores above the twelfth grade.

The library was composed of one set of reference books for all to use and a very few other books that would be interesting to an eighth-grade pupil.

There were six pupils in each group who scored above the twelfth grade. The Profile Chart for the test did not give the norm for a score above eighty-nine; therefore the exact educational grade could not be given.

Table 18 compares the total points gained in the reading comprehension division from the Gray-Votaw Achievement Tests and shows the difference in progress of each pupil in the experimental and the control groups. Pupil 23 of the experimental group gained twenty-three points, whereas the same pupil of the control group gained only ten points. Pupil 14 of the control group gained twenty-eight points, and the same pupil of the experimental group lost two points. One other pupil of the control group excelled her pair mate. Pupil 20 of the control group gained nineteen points, and the same pupil of the experimental group lost two points. The remaining pupils of the experimental group made a steady gain until there was a difference of thirty-six points in the total scores in favor of the experimental group.

Table 18 also shows that the lower 50 per cent of the mental age in the experimental group gained more points than the upper 50 per cent. This might be explained by the fact that few of these children had opportunities at home

TABLE 18

GAIN OR LOSS AND THE DIFFERENCE IN PROGRESS OF THE EXPERIMENTAL AND CONTROL GROUPS ON READING COMPREHENSION FROM THE GRAY-VOTAW ACHIEVEMENT TESTS

| Paired Number of Pupil | Gain or Loss | | Difference in Progress | |
|---|---|---|---|---|
| | E. G. | C. G. | E. G. | C. G. |
| 1 | 9 | -1 | 9 | ... |
| 2 | 0 | -2 | ... | ... |
| 3 | -1 | 1 | ... | 1 |
| 4 | -6 | -4 | ... | 4 |
| 5 | 0 | ... | ... | ... |
| 6 | 8 | 7 | 1 | ... |
| 7 | 9 | 0 | 9 | ... |
| 8 | 8 | 8 | ... | ... |
| 9 | 13 | 16 | ... | 3 |
| 10 | 8 | -4 | 8 | ... |
| 11 | 11 | 5 | 6 | ... |
| 12 | 6 | 5 | 1 | ... |
| 13 | 15 | -10 | 15 | ... |
| 14 | -2 | 28 | ... | 28 |
| 15 | 3 | -7 | 3 | ... |
| 16 | 5 | 1 | 4 | ... |
| 17 | 0 | -4 | ... | ... |
| 18 | 3 | 11 | ... | 8 |
| 19 | 0 | 13 | ... | 13 |
| 20 | -1 | 19 | ... | 19 |
| 21 | ... | 8 | ... | 8 |
| 22 | 7 | -5 | 7 | ... |
| 23 | 23 | 10 | 13 | ... |
| 24 | 2 | -12 | 2 | ... |
| 25 | 10 | 3 | 7 | ... |
| 26 | 5 | 5 | ... | ... |
| Total | 135 | 99 | ... | ... |

to get information, and in this freedom of classroom procedure they had a chance to examine books freely and to hear reports given on things in which they were interested.

# CHAPTER III

## INFLUENCE OF THE TWO METHODS OF TEACHING ON PERSONALITY AND BEHAVIOR

### Personality Adjustment

It was the duty of the school to consider the effects of the policies of the administration, the curriculum, and the school personnel, as well as the home relations on personality development. The curriculum was of great importance in the development of well-adjusted personalities. One of the purposes of this experiment was to compare the influence of the two methods of teaching on personality development of the experimental and control groups. Before the comparison was made, it seemed important to compare the purposes of the two methods.

In the old method of teaching the main purpose was to memorize facts and to acquire skills by practice and repetition; the experience method gave freedom to the pupils to carry out their own plans under friendly guidance. In this way it seemed that the pupils developed habits of behaving in socially acceptable ways when living and working in social groups.

Success is another stimulus necessary to personality development. Self-confidence should come through success.

Pupils must be guided into work where there is a degree of success before they can become well adjusted.

In September, 1949, after the pupils of the experimental and the control groups had been paired for the experiment, the California Test of Personality, Form A was given to both groups in order that the influence of the two methods of teaching might be measured. The two groups were given another form of the same test in May to determine which method of teaching was more influential in developing well-adjusted personalities.

These tests were given and graded by the same person; therefore, there was no exception made in the instructions or in the checking. The personality test was divided into two parts: Self Adjustment and Social Adjustment. In the self-adjustment part the questions led to knowledge of pupil self-reliance, his sense of personal worth, his sense of personal freedom, his feeling of belonging, his freedom from withdrawing tendencies, and his freedom from nervous symptoms. In the social adjustment part the social standards, social skills, freedom from anti-social tendencies, family relations, school relations, and community relations were taken into consideration.

Table 19 gives the total adjustment scores on the California Test of Personality, Form A and Form B of the experimental and the control groups.

TABLE 19

TOTAL SCORE ON THE CALIFORNIA TEST OF PERSONALITY, FORM A AND FORM B OF EACH PUPIL OF THE EXPERIMENTAL AND CONTROL GROUPS

| Paired Number of Pupil | Total Score on Form A | | Total Score on Form B | |
|---|---|---|---|---|
| | E. G. | C. G. | E. G. | C. G. |
| 1 | 137 | 97 | 138 | 127 |
| 2 | 119 | 127 | 138 | 139 |
| 3 | 134 | 115 | 134 | 123 |
| 4 | 134 | 127 | 138 | 143 |
| 5 | 134 | 115 | 137 | . . |
| 6 | 109 | 137 | 137 | 133 |
| 7 | 120 | 127 | 141 | 139 |
| 8 | 129 | 116 | 130 | 131 |
| 9 | 138 | 134 | 135 | 137 |
| 10 | 138 | 126 | 141 | 136 |
| 11 | 119 | 117 | 128 | 132 |
| 12 | 125 | 118 | 121 | 131 |
| 13 | 123 | 111 | 134 | 134 |
| 14 | 130 | 124 | 138 | 120 |
| 15 | 120 | 119 | 138 | 132 |
| 16 | 110 | 106 | 133 | 100 |
| 17 | 108 | 120 | 122 | 135 |
| 18 | 99 | 118 | 93 | 135 |
| 19 | 127 | 80 | 130 | 130 |
| 20 | 137 | 125 | 130 | 136 |
| 21 | 120 | 122 | . . | 136 |
| 22 | 108 | 125 | 137 | 131 |
| 23 | 67 | 92 | 118 | 133 |
| 24 | 118 | 104 | 133 | 134 |
| 25 | 127 | 122 | 125 | 135 |
| 26 | 97 | 120 | 107 | 117 |
| Average | 120 | 117 | 130 | 131 |

The experimental group made an average score of 120 on Form A of the test, and the control group made an average of 117. On Form B, given in May, the experimental group made an average score of 130, and the control group made an average of 131, only one more point than was made by the other group.

There were many things besides the methods of teaching that entered into the personality development of both groups. In the control group a new teacher with a dynamic personality came at mid-term. The method of teaching was not changed, yet the pupils' associations with him in coaching basketball, at class parties, and in other outside activities helped to change their views of life and helped them to adjust themselves.

## Behavior Problems

Behavior is very closely tied in with personality and, as in the case of personality, can be influenced by many things for better or for worse. Behavior problems are usually dealt with as those factors of personality which are desired to be eliminated, but far more important are those factors that are needed to be encouraged in the pupil.

The greatest problem in dealing with behavior problems is the task of deciding which problem is the most serious. Teachers often call the behavior problems serious if they tend to upset the quiet and order of the schoolroom procedure.

> One authority believes that if a child is happy, reasonably satisfied with himself without being conceited, if he likes other people and they like him and seek his companionship, he has a good personality. If on the other hand, he is unhappy, unsure of himself, thinks the world is against him, or if he is shunned and disliked by his companions, he has an undesirable personality.[1]

The fifty-two boys and girls of the experiment were rated on the Haggerty-Olson-Wickman Behavior Rating Schedules in September and again in May. An explanation of the above test according to the manual is that the lower the score, the higher the pupil rates, and the less serious are his behavior problems. The test is divided into two parts: Schedule A and Schedule B. The Behavior Problem Record, Schedule A, is a list of behavior problems which have been listed on the schedule in order of their frequency, as reported for a group of elementary school children. The Behavior Rating Scale, Schedule B, consists of a graphic scale for each of the thirty-five intellectual, physical, social, and emotional traits. Schedule A is designed to locate problem children through a record of overt behavior problems, whereas Schedule B covers personal characteristics on a variety of traits, regardless of whether or not the behavior described would be called a behavior problem.

Table 20 gives the behavior ratings on Schedule A and on Schedule B of the experimental and the control groups. The improvement made will be considered on how much lower the May rating was than the September rating.

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[1]Lee and Lee, op. cit., p. 76.

TABLE 20

BEHAVIOR RATING OF EACH PUPIL IN THE EXPERIMENTAL AND CONTROL GROUPS IN SEPTEMBER AND MAY

| Paired Number of Pupil | September Rating | | May Rating | |
|---|---|---|---|---|
| | E. G. | C. G. | E. G. | C. G. |
| 1 | 92 | 159 | 79 | 131 |
| 2 | 115 | 128 | 72 | 126 |
| 3 | 114 | 97 | 57 | 73 |
| 4 | 182 | 62 | 104 | 57 |
| 5 | 120 | 67 | 85 | . . |
| 6 | 97 | 92 | 51 | 74 |
| 7 | 124 | 91 | 74 | 89 |
| 8 | 156 | 101 | 97 | 81 |
| 9 | 94 | 90 | 59 | 86 |
| 10 | 69 | 89 | 38 | 84 |
| 11 | 89 | 76 | 61 | 70 |
| 12 | 110 | 75 | 63 | 73 |
| 13 | 98 | 127 | 77 | 82 |
| 14 | 72 | 70 | 54 | 69 |
| 15 | 105 | 183 | 72 | 187 |
| 16 | 141 | 206 | 80 | 206 |
| 17 | 102 | 89 | 74 | 76 |
| 18 | 102 | 92 | 82 | 92 |
| 19 | 86 | 107 | 57 | 78 |
| 20 | 125 | 92 | 90 | 95 |
| 21 | 106 | 109 | . . | 81 |
| 22 | 102 | 80 | 72 | 80 |
| 23 | 119 | 127 | 90 | 107 |
| 24 | 134 | 125 | 91 | 125 |
| 25 | 77 | 208 | 51 | 179 |
| 26 | 100 | 122 | 84 | 100 |
| Average | 113 | 114 | 93 | 100 |

Pupil 3 of the experimental group had a rating of 114 in the first rating; in the final rating her behavior rating was 57, a 50 per cent higher rating. This pupil had several of the behavior problems listed in Schedule A, but she overcame most of these during the term. The most serious ones were temper tantrums and disinterest in school. She overcame the temper tantrums because she wanted to be accepted by the group, and they had vetoed such behavior. The experience method of teaching helped to remove the disinterest in school.

# CHAPTER IV

# CONCLUSIONS AND RECOMMENDATIONS

## Conclusions

In comparing the two methods of teaching, the following conclusions were drawn:

1. It was difficult to compare the influence of the two methods of teaching on personality, since so many outside activities had to be considered, such as basketball coaching, the inter-mingling of the pupils of each group, and the home environment.

2. The experience method of teaching proved superior in most cases according to test reports.

3. The pupils of the experimental group were much happier than the pupils of the control group.

4. The pupils wanted knowledge and enjoyed seeking it, for they had a reason or need for that knowledge.

5. The test scores indicated that the experience method was the better method of teaching for the low mental age pupils, since the largest gain was in the lower 50 per cent of the mental age of the experimental group.

6. Personality of the teacher carried over into the personality development of the pupils.

## Recommendations

The following recommendations appear to be warranted in light of the data presented in this study:

1. The pre-service of teachers should be improved by the revision of courses in psychology and child development in many institutions to give more valid concepts of the process involved in human growth, motivation, behavior, and adjustment.

2. The teacher should be a participating guide in a social studies program and should provide a gradual and continuous development of meanings and understandings in the pupil.

3. The curriculum should be based on the needs, interests, and abilities of the child.

4. The curriculum should be composed of experiences that would lead children to appreciate as well as to understand life about them.

5. The experience method should be used inclusively from the first grade through the eighth grade.

6. The experiences encountered in the social-studies program should help each child to develop correct mental attitudes and a sound body.

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