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ABSTRACT

In this program report, students from Workshop Way (WW) classrooms were compared with students who were not in the program to discover if WW students were progressing faster in academic and social development. The WW program operated in disadvantaged areas; it combined a special organizational plan of the social and physical features of a classroom with a homework plan, personality-phonics activities, parental involvement, and flexible scheduling. The research design included three experimental WW classrooms and two control classrooms for grades 1 and 2; the five classrooms were all in ESEA Title I schools. Although all classrooms were in disadvantaged neighborhoods, one classooom was integrated--black, white, and Mexican-American. Objectives of the program were: (1) to discover a difference, if any, in the rate of mental, academic, and personal-social development on WW students and the control students; (2) to determine if WW students continue to progress at a different rate; and (3) to determine if there is any tansfer of skills learned through in the program to other skills in the future. The subjects were given standardized pretests and posttests in mental ability, achievement, and personal-social growth. In addition, observations of paired students were arranged. WW students were found to have progressed significantly better in mental and academic development; skills learned in the workshop were transferred. (Author/CW)

Final Report

Project No. 9G 085
Grant No. OEG-7-9-280085-0134-(010)

THE MEASUREMENT AND EVALUATION OF THE MENTAL, ACADEMIC AND PERSONAL-SOCIAL DEVELOPMENT OF PRIMARY STUDENTS IN WORKSHOP WAY CLASSROOMS AND IN NON-WORKSHOP CLASSROOMS

Sr. Grace Pilon

Xavier University of Louisiana

New Orleans, Louisiana

November, 1970

The research reported herein was performed pursuant to a contract with the Office of Education, U.S. Department of Health, Education and Welfare. Contractors undertaking such projects under Government sponsorship are encouraged to express freely their professional judgment in the conduct of the project. Points of view or opinions stated do not, therefore, necessarily represent official Office of Education position or policy.

"The greatest good we can do for others
is not just to share our riches
with them, but to reveal
their riches to
themselves"

(author unknown)

ACKNOWLEDGMENTS

The author wishes to express her gratitude to the teachers and administrators of Orleans Parish Public Schools for their cooperation in the research program. She is especially indebted to Mrs. Josepha(Martinez)Weston, the original director of the project, who planned and coordinated all procedures during the time the data was being gathered.

The author is sincerely grateful to Dr. Melvin Grunell, Director of the Center for Teacher Education at Tulane University, who graciously gave us his time to advise and to evaluate the research proposal to insure that we would have a sound program that could produce results upon which further significant research can be built. Dr. Victor Thiessen, Statistician and Professor of Sociology at Case Western Reserve University, Miss Barbara Hartford, Dr. Thiessen's research assistant, and Dr. Edward Hoenan, Professor of Sociology at Tulane University, were most helpful by their guidance and contributions in the computer analysis of the data.

Summary

The problem investigated was that of determining if students of Workshop Way classrooms progress faster in their mental, academic, and personal-social developments than do students of non-workshop classrooms.

The Workshop Way is an innovative way of providing an effective teaching-learning environment in disadvantaged areas by combining a special organizational plan of the social and physical features of a classroom with a homework plan, personality-phonics activities, parental involvement, and flexible scheduling. This organizational system evolved in the classroom of the author over a period of twenty years or more.

The research design included three experimental Workshop Way classrooms and two control non-workshop classrooms for first and second grades. The five classrooms were all in Title One Schools. There were 142 pupils involved in the research. Although all classrooms were in disadvantaged neighborhoods, one classroom was integrated with three ethnic groups - black, white and Mexican-American. All classrooms were given similar standard equipment and similar books and supplies as used in the Orleans Parish Public Schools. The Workshop Way classrooms were also given materials unique for the system as created and used by the author. The teachers were chosen by the principals of the schools from volunteers who agreed to accept the responsibilities of the program. Three classrooms were first grades and two were second grades.

The objectives desired for the project were (1) to discover if there is a difference in the rate of mental, academic and personal-social development of primary students of Workshop Way classrooms and in students of non-workshop classrooms; (2) to determine if students working in workshop classrooms continued also to make more rapid progress in the same areas of development than did workshop students who did not continue in workshop classrooms; and (3) to determine if there is any transfer of skills learned through the Workshop Way system to skills not formally taught in the Workshop Way classrooms in the second grade.

The five classes were given standarized pre-tests and post-tests in mental ability, achievement, and personal-social growth. In addition to this the original research director organized observations of paired students from classes within the research design. The forms of behavior listed during the observations consisted only of that behavior which the observer could see or hear and on which no personal, subjective judgments had to be made. The data gathered from all the instruments were sent to a statistician at Case-Western Reserve University in Cleveland, Ohio for computer analysis.

The computer results were tabulated. According to the analysis of the data, it can be assumed that:

1. Students of Workshop Way first grade classrooms progress at a faster rate than students of non-workshop classrooms in their mental and academic development and this to the point of statistical significance through tests run off for Z Scores.

2. Workshop Way students continuing in the Workshop Way in the second grade made more progress than did Workshop Way students who went to a non-workshop classroom in their mental and academic development and this to the point of statistical significance at the 5% level of confidence.

3. There is a transfer of skills learned through the Workshop Way system to skills not formally taught in the Workshop Way classrooms in the second grade and the results show statistical significance at the 5% level of confidence in two sub-tests:

   Spelling (2.00)
   Arithmetic Concepts (1.98)

The withdrawal of six more able students in the experimental classroom probably deprived the study of more dramatic results in the testing of this objective. (Transfer of skills to the learning of subjects not formally taught during the time that language arts must have priority)

Graphs showing many types of comparisons between the results of Workshop Way and Non-workshop classrooms are revealing to the extent that the over-all picture warrants further systematic evaluations of a system of education in which every child can learn to a degree conducive to personal-social growth.

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GRAPHS

CHAPTER ONE
Background for the Study

The Workshop Way is a special organization of the physical and social features of the classroom environment which stimulates learning and allows for healthy mental and emotional growth.

The ultimate aim of the system is to consolidate the personality, to give all students a basic balance so that pupils can move towards the fullness of humanity which will enable all to live a rich, human life and to do their part in making society a better one for mankind. The specific goals are to develop in the children the power to think, to learn how to learn, to read and to love it all. It is not the amount of learning nor even the subject matter that counts. What does count is that the child becomes aware that he can learn, and in fact, that he has learned something. This gives him security, great satisfaction, a feeling of importance, and a desire to learn some more.

For many years it was thought that the author was a good reading teacher because so many of her children knew how to read as they went on to higher grade levels at St. Elizabeth's Grammar School in Chicago. In the school there were two classrooms for each grade. At promotion time the classes were divided and half of each teachers' pupils would go to each of the teachers of the next grade. Since the workshop pupils were separated in this manner, only three of the effects of the program were visible - pupils could read, were courageous in their attack on new lessons, and they knew how to follow directions well.

Then a new principal made a change in the promotion policy. Whole classes went on to new grades. In October of the first year that this policy went into effect, the second graders were given the usual Otis Intelligence Test. The return of the results caused consternation because one second grade's IQ range fell between 70 and 109 with a median in the low 90's while the other's range fell between 80 and 140 with a median in the 100's. Justly it could be assumed that one first grade teacher had the more able pupils in her classroom. But the author happened to know how the first grade teachers received their pupils. Each new pupil was given the Metropolitan Readiness Test. The booklets were stacked in ascending scores and the two teachers alternated in taking the booklets. So as far as readiness was concerned, the two classes were much alike in the first grades.

The author had a suspicion that the workshop may have been responsible for this phenomenom. So she obtained permission to go through the files to list the IQ's of all the workshop pupils. The range remained consistent. She decided to find out how much intellectual growth happened during one year of the Workshop Way.

In October of the following school year, she administered the Pintner-Cunningham General Ability Test, Form A to her first graders and the results were the same as those found in most ghetto areas. In June of that school year she gave Form B of the test. This is how the IQ's changed:

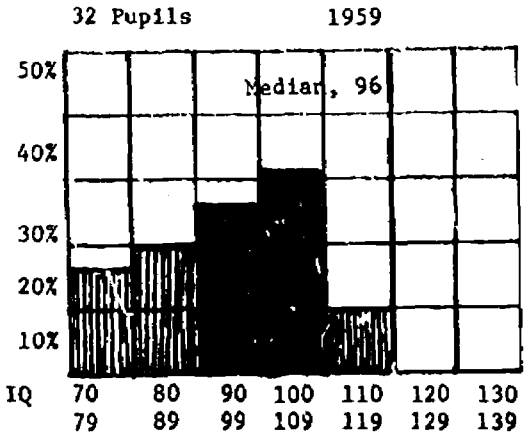
Percentage of class with:	October, 1966	June, 1967
I.Q.'s between 70 - 90	44%	12%
I.Q.'s between 90 - 110	48%	49%
I.Q.'s between 110 - 140	8%	39%

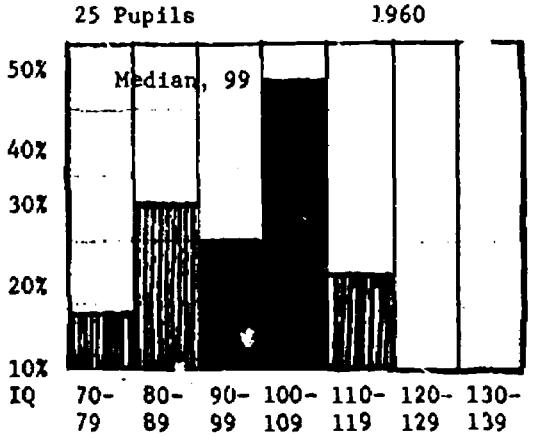
The graphs that follow depict the IQ test results of the workshop classes for the period the author was teaching at St. Elizabeth's Grammar School, and show the changes in range of scores and finally the graphs give us a picture of what happened when no workshop pupils were sent to the second grades in the school year of 1968-1969.

Mrs. Spann sent the author the IQ scores for the 1968-1969 second graders. This was the first time in 9 years that children scored in the 60's and no one scored above 109. Note that results remained consistent between 1963 and 1967. The 1968 picture reverted to what it was before 1959.

The percentages tell the part of the class in each IQ category. The heavily shaded columns include the low and high normal IQ's, 90 - 109. The columns to the left of the graph show the part of the class below normal and the columns to the right show the part above normal.

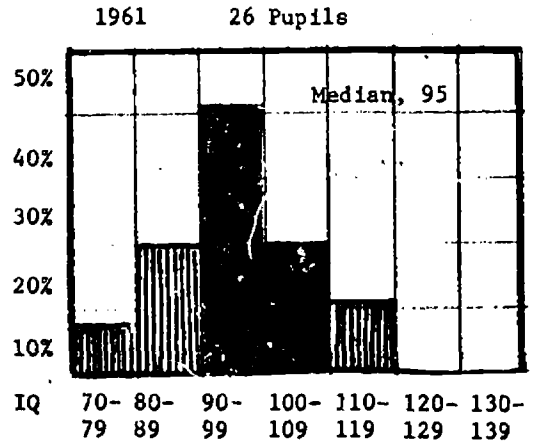
The children who raised their IQ's on the 1967 graph were the same children who performed in the second grade achievement test as shown in this chapter. Note that the 1968 graph shows a typical inner city picture of IQ's in ghetto areas. OTIS LENNON INTELLIGENCE TESTS are given in October in all second grades in the Chicago Archdiocesan schools. They are given again in the fourth and seventh grades.

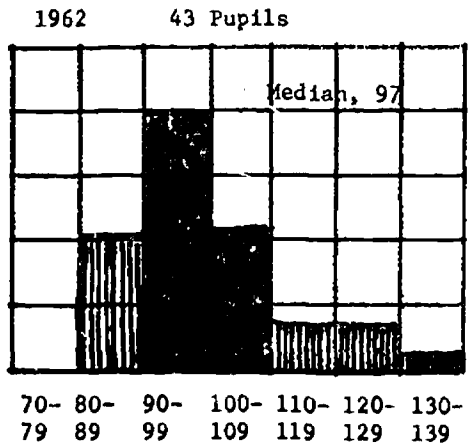


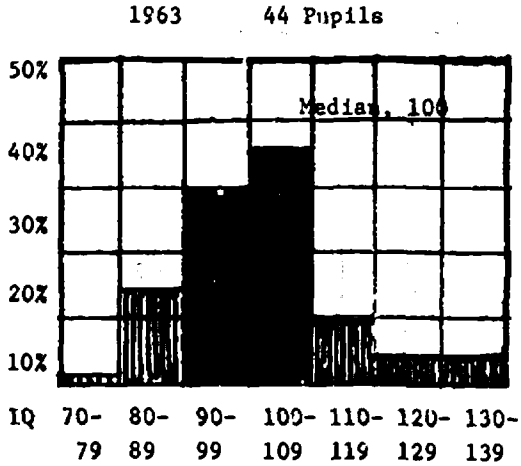


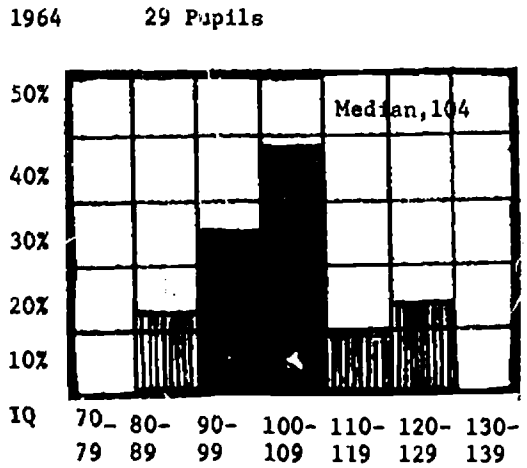
Otis Intelligence Test - Grade Two (Given in October every year)

1961 to 1964

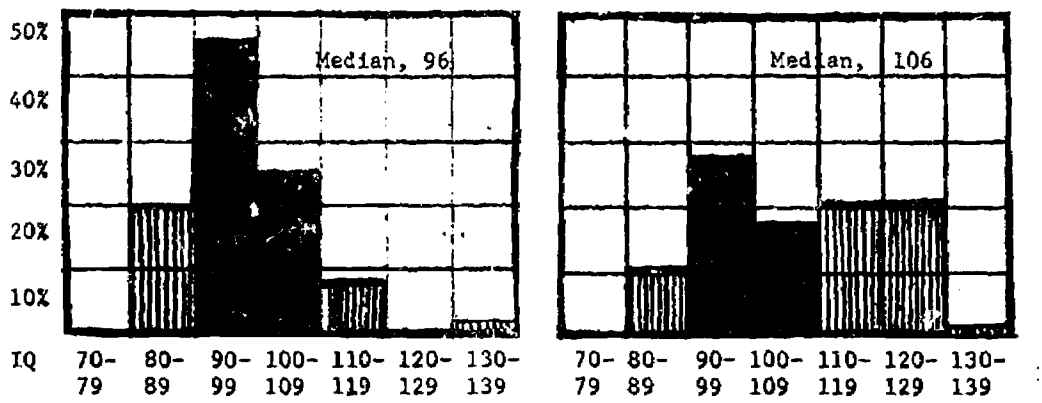


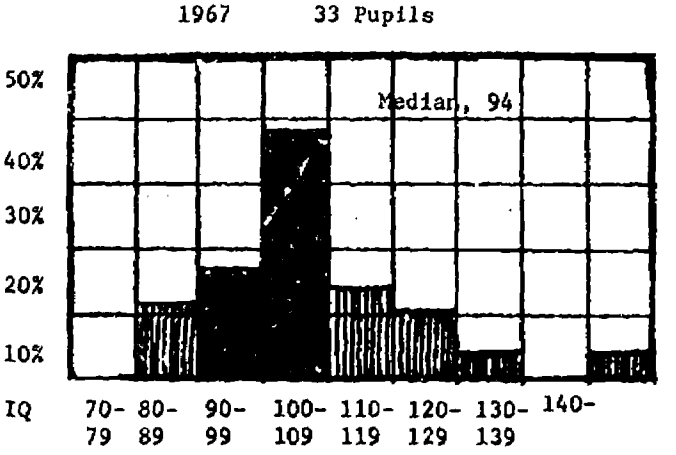


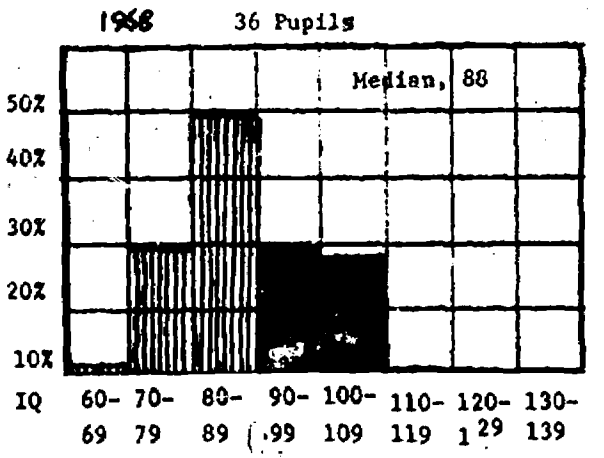




Otis Intelligence Test - Grade Two (Given in October every year)
1965 to 1968







In 1968, no child had the Workshop Way at any time.

In the second grade the workshop pupils were fortunate in having the Workshop Way another year. The teacher, Mrs. Odessa Spann, had taken the trouble to learn the new way because her personal observations of workshop pupils in the past had made her feel that this way worked. The pupils with the new IQ's according to the Pintner-Cunningham Test of June, 1967 and of the Otis Intelligence Test of October, 1967 showed that their ability to achieve academically harmonized with the picture of their mental growth. Following are graphs showing the above phenomena.

Since there was a second grade at St. Elizabeth's not using the Workshop Way, the graphs of test results from this class are also included. There was only one achievement test given during the year.

HOW TO READ THE GRAPHS:

All graphs show the percent of the class in the various grade levels according to the results of the Stanford Achievement Test in two second grades in March, 1968. One class had the Workshop Way in the first and second grades. The other class never had the Workshop Way.

A heavily shaded column includes the percent of the class in the norm group as well as the month below and the month above the norm.

A quick look to the left of the heavily shaded column gives you the picture of the part of the class below grade level. A quick look to the right shows the part of the class above grade level.

Horizontal lines are used for the Workshop Way and vertical lines for the non-workshop classroom.

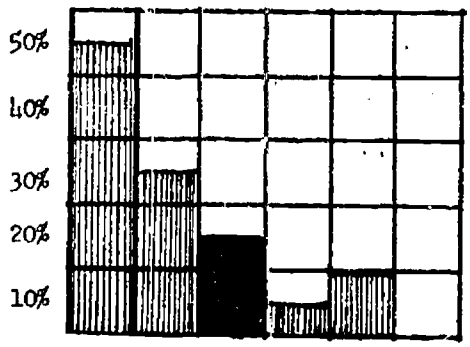
Stanford Achievement Test - Grade Two
March, 1968

NON-WORKSHOP

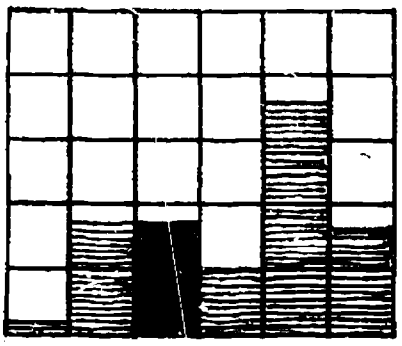
WORKSHOP WAY (16 months-Grades 1 and 2)

PARAGRAPH MEANING

42 Pupils



33 Pupils

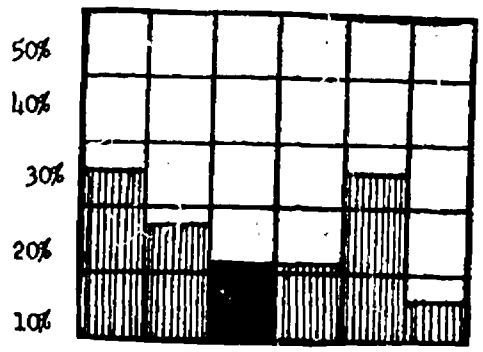


GRADE LEVELS	1.5	2.0	2.5	2.8	3.0	4.0
	1.9	2.4	2.7	2.9	3.9	4.9

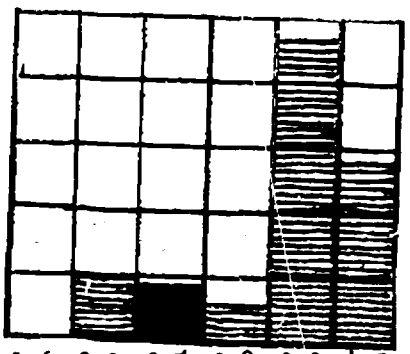
	1.5	2.0	2.5	2.8	3.0	4.0
	1.9	2.4	2.7	2.9	3.9	4.9

WORD MEANING

42 Pupils



33 Pupils



GRADE LEVELS	1.6	2.0	2.5	2.8	3.0	4.0
	1.9	2.4	2.7	2.9	3.9	4.9

	1.6	2.0	2.5	2.8	3.0	4.0
	1.9	2.4	2.7	2.9	3.9	4.9

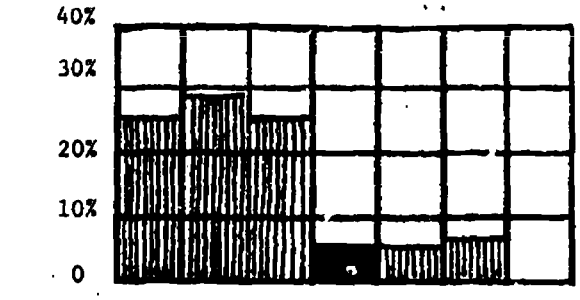
Mrs. Odessa Spann: Teacher of the Workshop Way at St. Elizabeth Grammar School, Chicago, Ill.

Stanford Achievement Test - Grade Two
March, 1968

Workshop Way= Horizontal Lines
Non-workshop = Vertical Lines

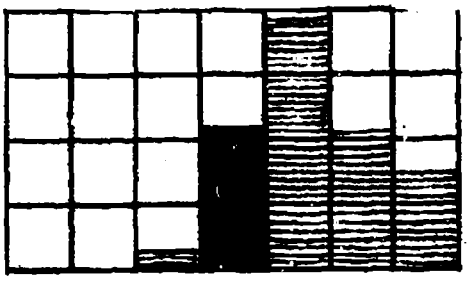
SCIENCE AND SOCIAL STUDIES

42 Pupils



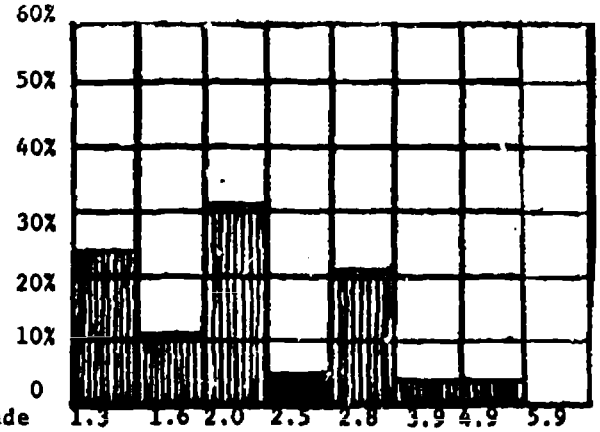
Grade	1.3	1.6	2.0	2.5	2.8	3.9	4.9
Levels	1.5	1.9	2.4	2.7	3.8	4.8	5.3

33 Pupils

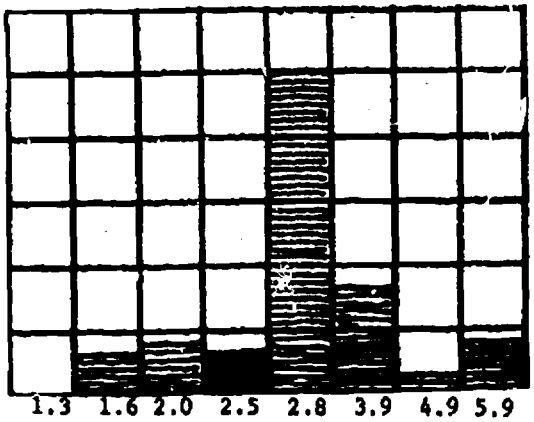


1.2	1.6	2.0	2.5	2.8	3.9	4.9
1.5	1.9	2.4	2.7	3.8	4.8	5.3

SPELLING



Grade	1.3	1.6	2.0	2.5	2.8	3.9	4.9	5.9
Levels	1.5	1.9	2.4	2.7	3.8	4.8	5.8	6.3



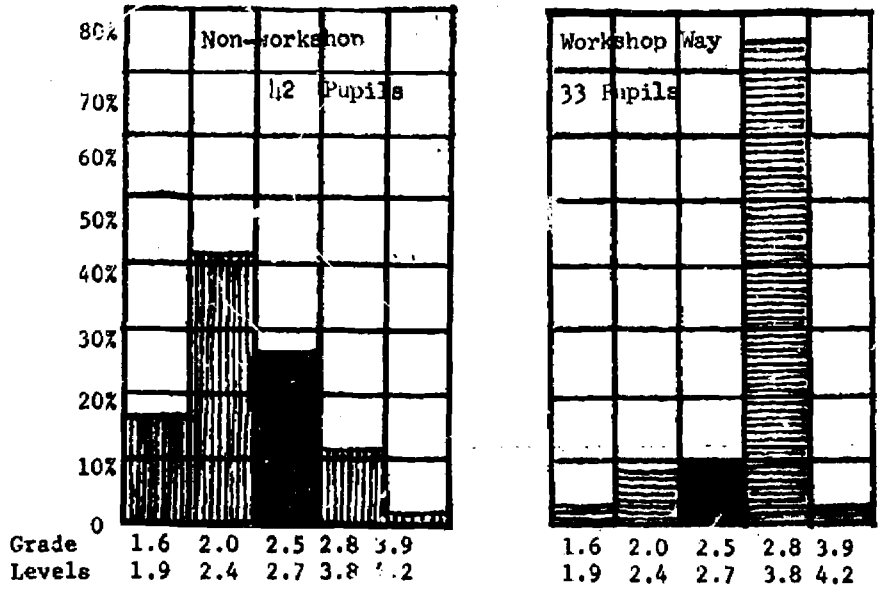
1.3	1.6	2.0	2.5	2.8	3.9	4.9	5.9
1.5	1.9	2.4	2.7	3.8	4.8	5.8	6.3

Teacher: Mrs. Odessa Spann
St. Elizabeth Grammar School
Chicago, Ill.

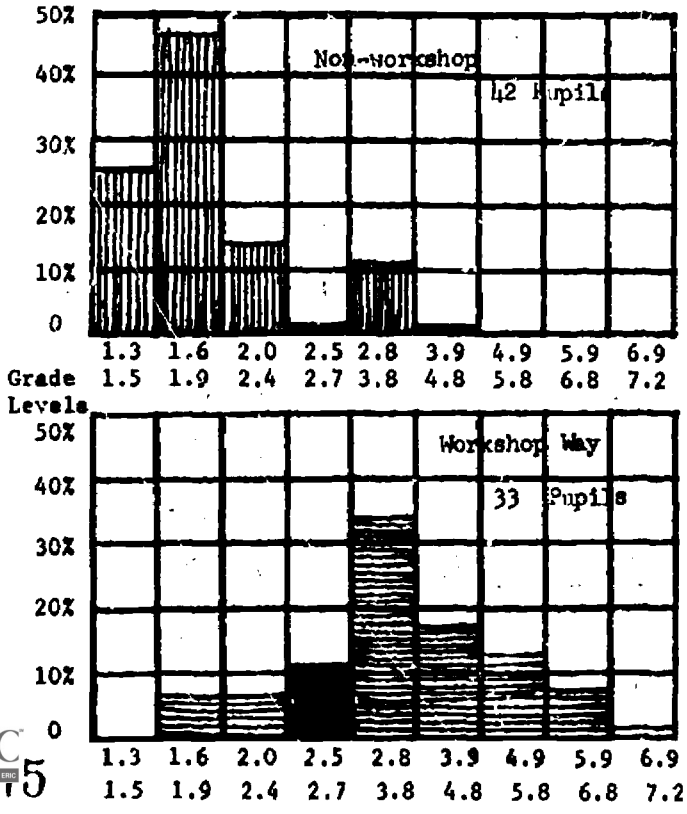
Stanford Achievement Test - Grade Two
March, 1968

Workshop Way= Horizontal Lines
Non-workshop= Vertical Lines

LANGUAGE



WORD STUDY SKILLS



Non-workshop Class

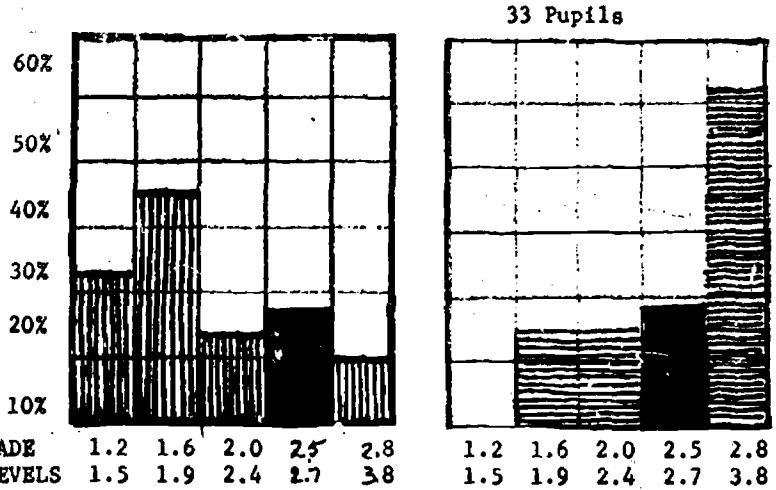
Workshop Way

Stanford Achievement Test - Grade Two
March, 1968

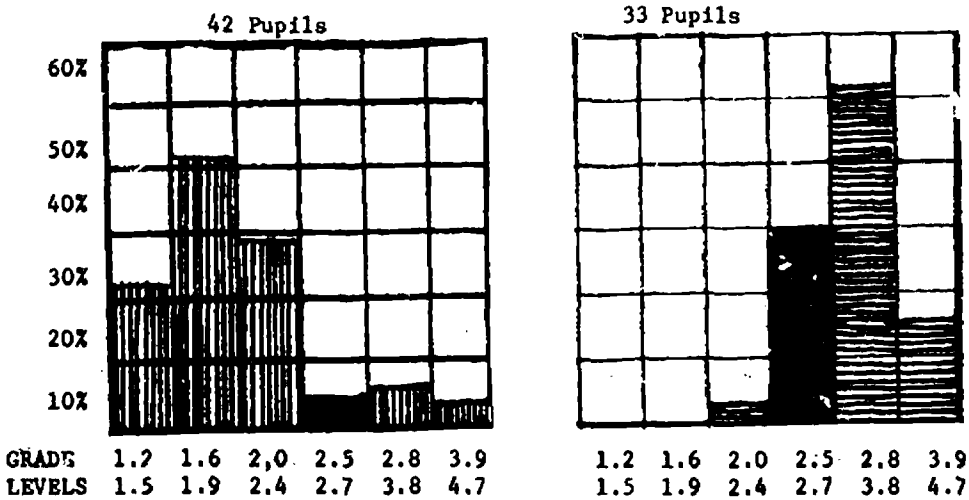
WORKSHOP WAY = HORIZONTAL LINES

Non-workshop = VERTICAL LINES

ARITHMETIC COMPUTATION



ARITHMETIC CONCEPTS



Teacher: Mrs. Odessa Spann
(Workshop Way)

St. Elizabeth Grammar School, Chicago, Ill.

LOW IQ SCORERS and THEIR STANFORD ACHIEVEMENT TEST RESULTS - Second Grade

March, 1968

THE NON-WORKSHOP PUPILS: Grade levels given ...

IQ	Word Meaning	Paragraph Meaning	Science	Spelling	Word Study Skills	Language	Arith. Computation	Arith. Concepts
69	1.7	2.3	2.4	absent	1.9	1.7	1.6	1.9
71	1.8	1.8	1.8	1.3	1.7	2.4	1.9	1.4
73	2.1	1.9	1.8	3.4	2.8	2.6	1.6	1.2
75	1.6	1.8	1.5	1.5	1.6	1.7	1.2	1.6
77	1.9	1.5	1.8	1.3	1.4	2.2	1.4	1.9
79	2.6	2.0	1.8	1.3	1.4	2.6	1.6	1.7
79	2.7	2.1	1.4	2.0	2.0	2.1	1.3	2.1
79	2.0	1.9	2.2	absent	1.8	1.9	2.4	2.3
80	2.7	1.9	1.8	1.9	1.6	2.4	1.5	2.1
80	2.9	2.4	1.5	2.3	1.8	2.2	2.4	1.4
85	2.9	2.9	1.8	2.5	1.8	2.4	1.6	1.6
86	1.6	1.8	1.8	absent	1.7	1.6	1.7	1.4
86	1.6	1.8	2.4	absent	1.4	2.2	1.6	1.6
86	1.8	1.8	1.8	1.5	1.6	2.1	1.3	1.6
87	3.0	2.4	1.8	2.2	2.2	2.2	2.9	1.7
88	2.1	2.1	1.8	absent	1.6	2.5	absent	1.6
89	1.7	1.9	2.0	absent	1.6	3.1	1.7	1.4
THE WORKSHOP WAY PUPILS: (16 months)								
72	2.5	1.7	2.4	2.3	2.2	2.8	1.8	2.8
76	2.3	2.1	2.6	3.4	1.6	2.4	1.8	2.3
*76	2.8	2.7	2.7	4.0	3.7	2.9	3.0	2.7
78	4.2	3.2	5.1	3.5	3.9	3.4	3.5	3.6
83	3.1	3.0	4.6	3.4	4.0	3.1	2.6	2.7
85	3.0	2.0	3.6	2.2	2.6	2.8	1.9	2.6
85	4.0	3.4	3.3	2.6	2.8	3.2	1.8	2.5
85	3.3	3.0	3.1	3.1	5.0	3.2	3.3	3.2
*87	3.3	3.1	2.7	3.3	2.4	2.8	3.4	4.5
88	3.3	2.7	3.1	3.2	3.0	2.5	3.3	4.4
88	3.5	3.1	3.3	3.5	2.7	2.8	2.7	2.5

* These pupils had the Workshop Way only in Grade Two. The others had the innovated method in Grades One and Two.

Teacher of the Workshop Way in Chicago - Mrs. Odessa Spann
St. Elizabeth's Grammar School
Chicago, Ill.

The author came to Xavier University of Louisiana in order to write a book to share her ideas with other teachers. Fortunately, Xavier was involved in the Teacher Corps, a federal program permitting innovation. The interns used the Workshop Way successfully during the 1967-1968 school year with students labeled as unsocial non-readers from the first through the sixth grades. Pupils gained in personality and in academic growth. In the 1968-69 school year, five first grades at R.T. Danneel School #2 in New Orleans, La. and one fourth grade used the Workshop Way. Their test results follow. Notice how the results are alike for the five first grades regardless of the teacher.

Mrs. Weber's unsocial non-readers had attended our learning lab in 1967-68. She wanted to help all her children as these youngsters had been helped. During the summer of 1968 she learned the way and set about getting ready. Her results for two years are also included from September, 1968 through May, 1970.

A report on failures who succeeded at Church Point, La. in the Workshop Way is also included.

THE FIVE FIRST GRADES - Workshop Way
Danneel Public School #2 - New Orleans, La.

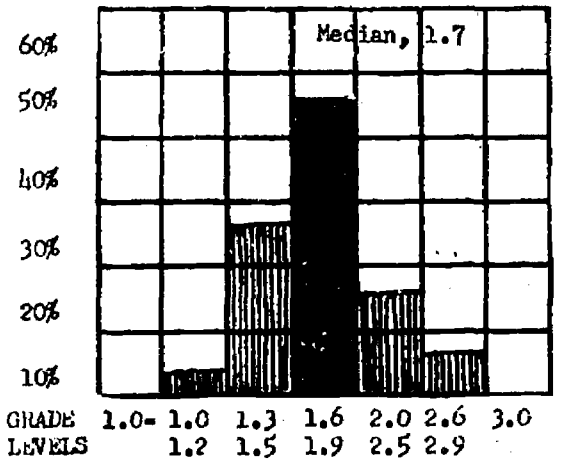
Metropolitan Achievement Tests
Primary I Battery, Form A
April, 1969

Each square represents 10% of the class. Therefore, the vertical readings show the part of the class in any particular grade equivalent group. Pupils were in the Workshop Way for 7 1/2 months before they were tested. The heavily shaded column shows the part of the class including average and above average scores. To the left of the heavily shaded column, the graph shows the percent of the class below average and to the right, the graph shows the part of the class very much above average.

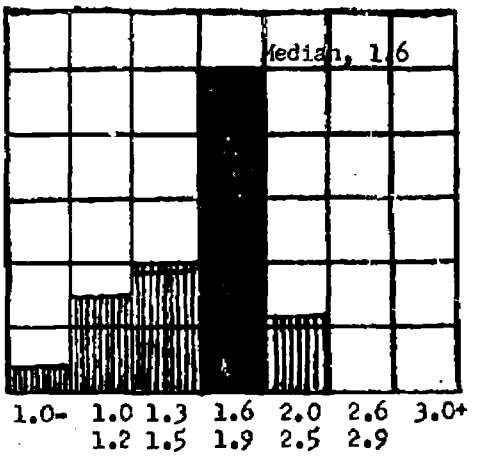
Metropolitan Achievement Test - Grade One
April, 1969

WORD KNOWLEDGE

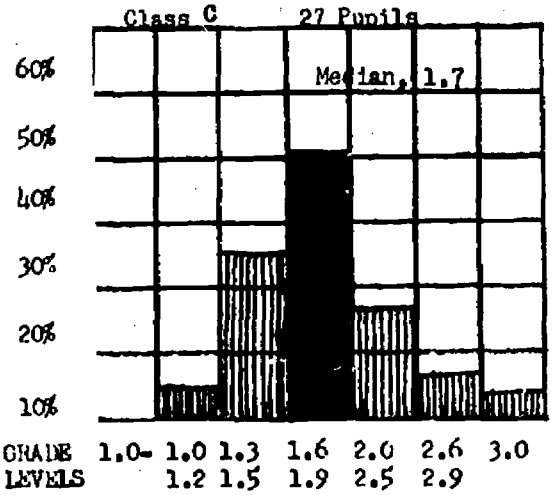
Class A 26 Pupils



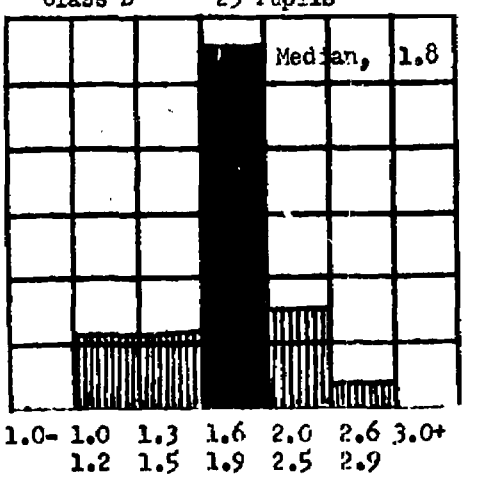
Class B 26 Pupils



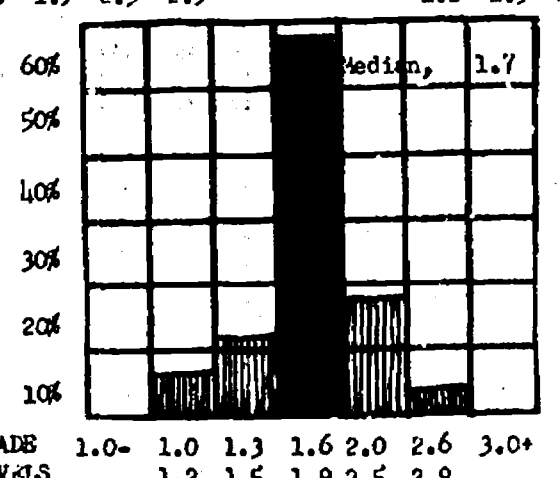
Class C 27 Pupils



Class D 25 Pupils

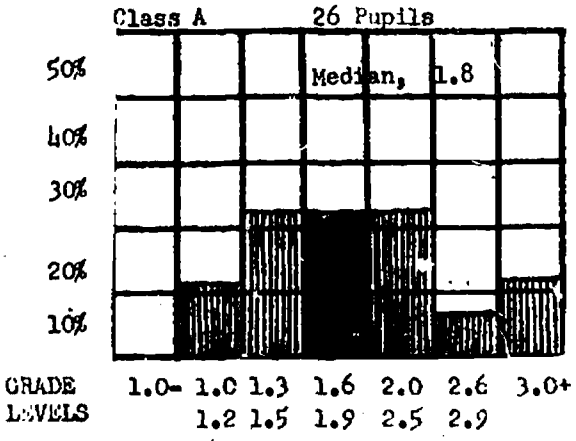


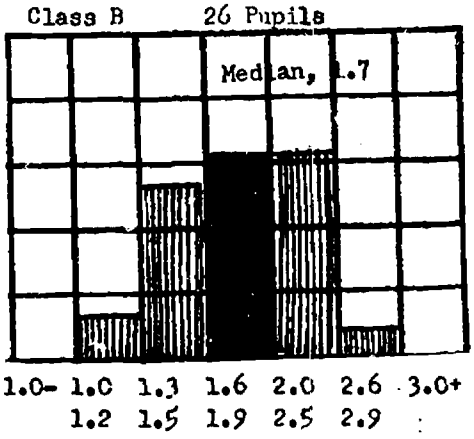
Class E
26 Pupils

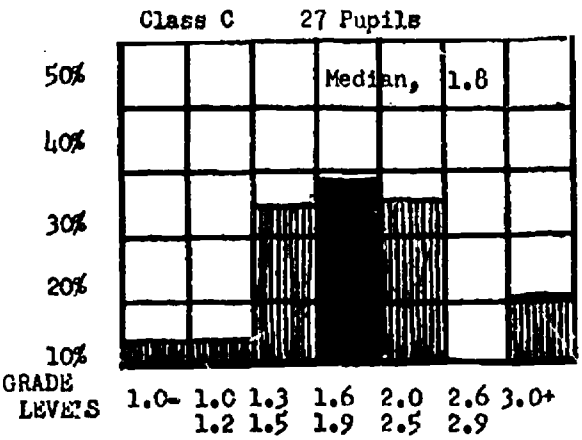


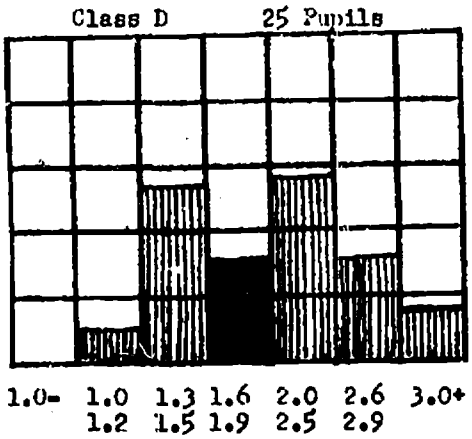
METROPOLITAN ACHIEVEMENT TEST
April, 1969

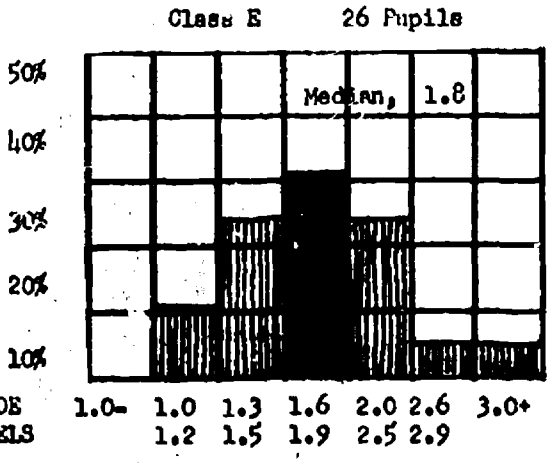
WORD DISCRIMINATION



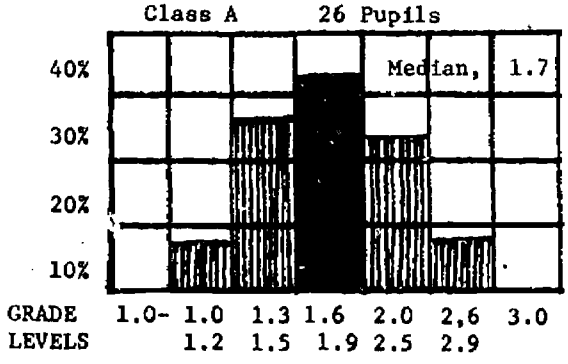


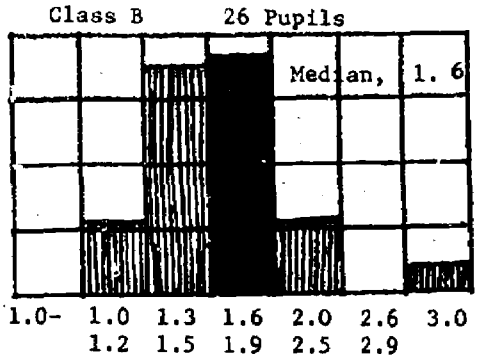


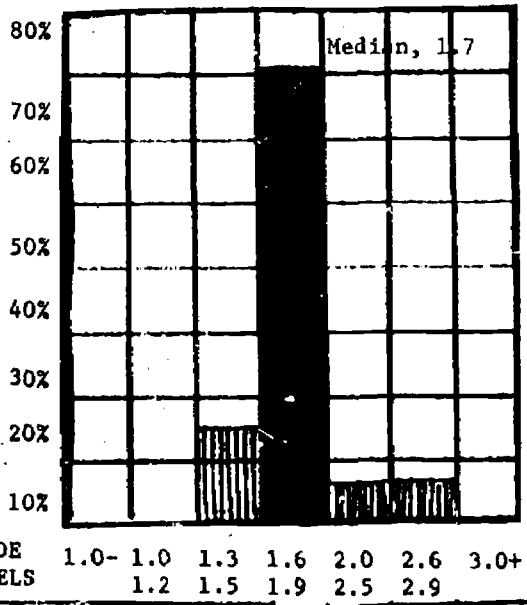




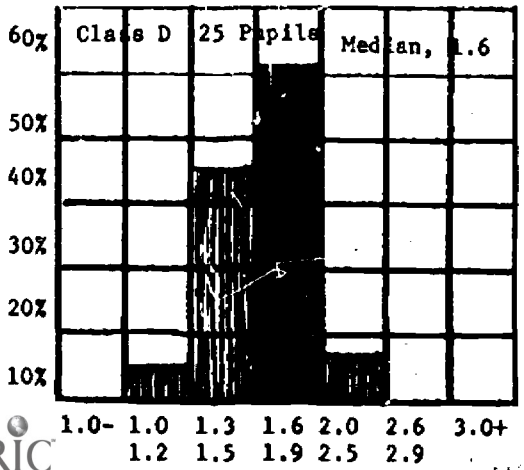
Metropolitan Achievement Test - Grade One
April, 1969
READING

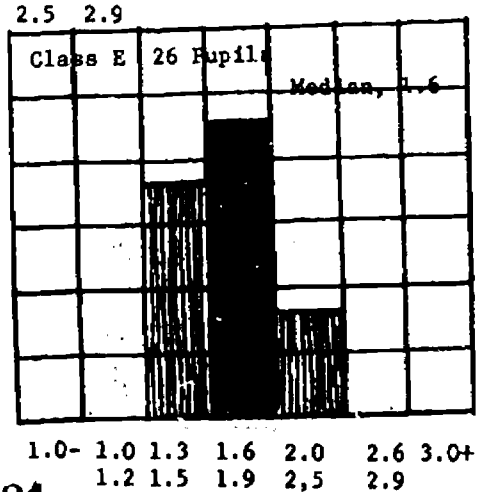






Class C 27 Pupils

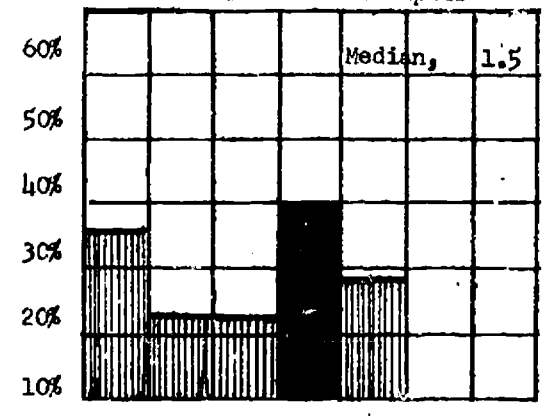




Stanford Achievement Test - Grade One
April, 1969

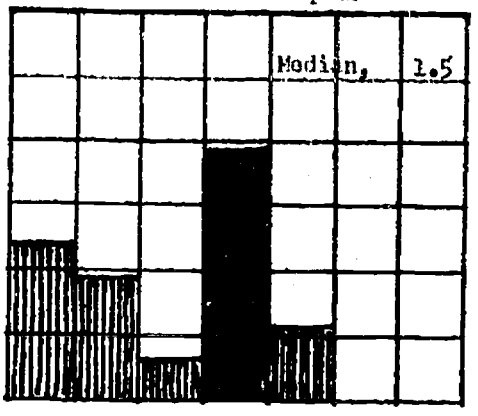
SPELLING

Class A 26 Pupils



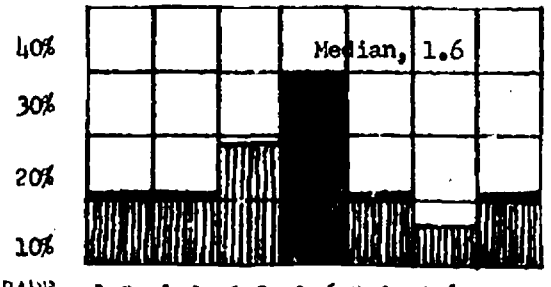
GRADE LEVELS 1.0- 1.0 1.2 1.3 1.5 1.6 1.9 2.0 2.5 2.6 2.9 3.0+

Class B 26 Pupils



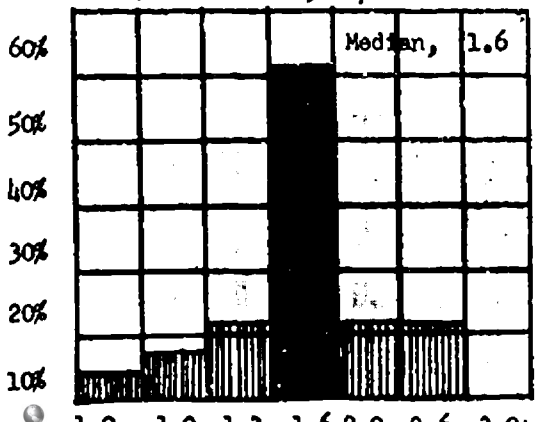
1.0- 1.0 1.2 1.3 1.5 1.6 1.9 2.0 2.5 2.6 2.9 3.0+

Class C 27 Pupils



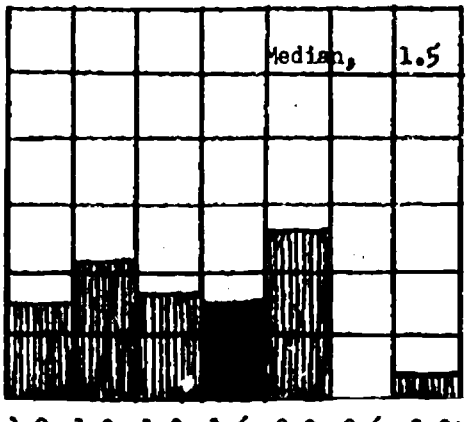
GRADE LEVELS 1.0- 1.0 1.2 1.3 1.5 1.6 1.9 2.0 2.5 2.6 2.9 3.0+

Class D 25 Pupils



1.0- 1.0 1.2 1.3 1.5 1.6 1.9 2.0 2.5 2.6 2.9 3.0+

Class E 26 Pupils



1.0- 1.0 1.2 1.3 1.5 1.6 1.9 2.0 2.5 2.6 2.9 3.0+

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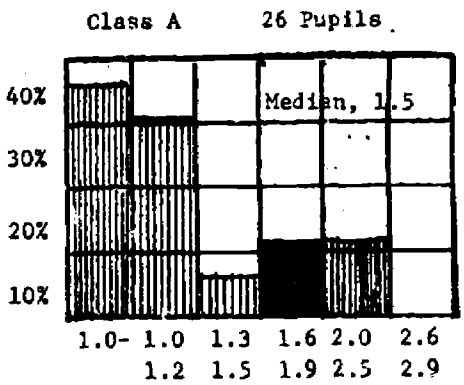
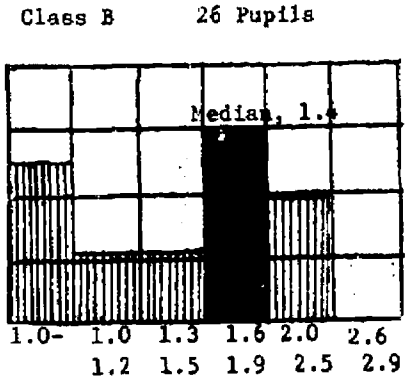
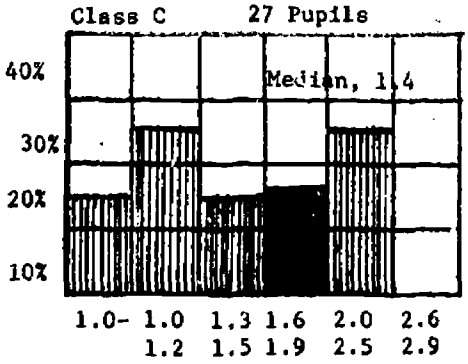
Metropolitan Achievement Test- Grade One

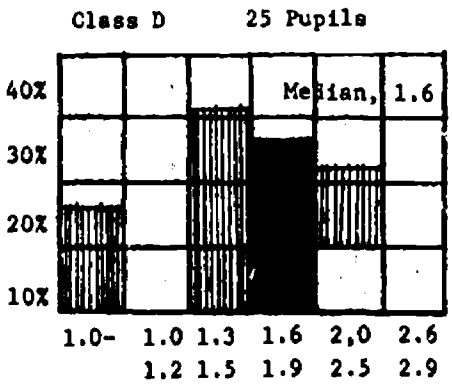
ARITHMETIC

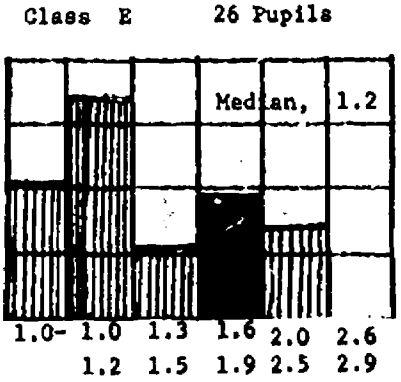
April, 1969











Grade Four - Workshop Way
Danneel School #2
New Orleans, La.

Mrs. Flora Weber - Teacher
Metropolitan Achievement Test
Top row - 1968 - Form B - September
Bottom - 1969 - Form A - May

	Grade Equivalents		
	Word Knowledge	Word Discrimination	Reading
1.	2.8	2.4	2.7
	3.8	3.6	4.2
2.	2.7	3.0	2.4
	3.7	4.0	4.3
3.	2.6	1.9	2.2
	4.0	3.1	3.2
4.	2.6	2.7	2.6
	4.3	4.7	4.3
5.	2.9	3.5	2.5
	5.0	4.8	4.4
6.	2.5	2.8	2.6
	5.0	4.7	5.3
7.	3.0	3.0	3.0
	5.7	4.9	4.5
8.	2.1	2.5	2.5
	4.0	3.7	4.4
9.	1.8	2.3	2.7
	3.1	3.9	3.7
10.	3.4	2.7	2.3
	4.7	4.7	3.9
11.	2.7	2.8	2.8
	3.8	4.0	4.2
12.	4.5	3.2	3.6
	6.1	5.5	6.8
13.	1.0	2.1	2.7
	3.4	4.6	3.3
14.	2.1	2.5	2.8
	3.6	3.9	4.3
15.	2.7	2.6	2.6
	4.0	3.5	3.4
16.	4.1	4.1	4.4
	6.2	5.8	6.8
17.	2.8	2.6	2.5
	4.7	4.3	4.2
18. 1968	1.8	2.3	2.5
19.	1.6	3.1	2.6
	3.5	3.1	3.1
20. 1969	4.8	4.4	6.3
21.	3.8	4.0	3.6
	6.6	5.8	6.7
22.	1.7	2.2	2.7
	3.8	3.9	3.3
23.	2.9	2.6	2.3
	2.5	2.9	2.4
24.	4.5	4.3	4.5
	7.9+	5.8	7.7
25.	3.1	2.2	2.5
	3.4	2.7	2.4
26.	2.8	2.6	3.0
	4.5	4.1	4.4

Mrs. Flora Weber
Metropolitan Achievement Test

September
Top row - 1969 - Form B
Bottom - 1970 - Form A
May

Grade Equivalents

	Word Kn.	Word Dis.	Reading	Spell.	Lan.	A.Comp.	A. Prob. S.
1.	2.8	3.6	2.5	4.9	2.1	2.1	4.1
	4.8	4.3	5.7	5.7	5.1	4.2	5.2
2.	2.3	2.6	2.2	3.0	2.4	2.7	2.7
	4.0	3.3	4.0	3.9	4.2	3.9	3.7
3.	3.1	3.5	3.0	3.6	2.9	3.7	3.5
	4.3	4.9	5.5	4.2	5.7	4.9	5.0
4.	3.8	4.6	3.8	3.1	2.8	2.9	2.6
	5.7	5.5	6.8	5.0	5.0	4.0	4.7
5.	2.5	2.8	2.4	2.6	2.8	3.6	2.4
	3.6	3.5	4.2	3.5	3.8	4.2	3.7
6.	2.3	2.9	3.0	2.6	2.6	4.0	3.4
	4.3	3.9	5.3	3.5	4.8	4.1	4.2
7.	3.1	3.1	3.7	3.5	4.2	4.1	4.0
	5.6	5.3	7.2	5.1	5.7	5.1	6.0
8.	2.7	2.7	1.9	1.6	2.8	3.5	2.7
	4.5	3.7	3.4	2.4	2.9	3.7	3.6
9.	2.9	2.6	2.3	2.0	1.9	3.7	2.8
	4.5	3.6	3.8	3.1	4.0	4.1	3.9
10.	2.7	2.6	2.4	2.2	1.9	3.8	3.5
	3.8	4.0	3.9	4.1	4.7	5.6	5.2
11.	4.3	4.6	2.8	4.9	3.8	3.2	3.5
	4.7	5.1	5.3	6.5	5.5	4.6	4.9
12.	2.8	2.8	2.3	3.3	3.1	3.6	2.7
	4.7	4.0	4.7	4.2	5.9	4.2	5.2
13.	2.0	2.4	2.5	2.5	2.6	3.6	3.5
	3.4	3.6	4.3	3.1	4.7	4.7	4.4
14.	2.7	2.4	2.8	2.2	3.8	3.5	2.6
	3.8	4.0	4.3	3.1	4.0	4.1	3.6
15.	3.7	4.1	3.9	4.7	4.1	3.8	3.9
	5.4	5.5	5.7	6.5	4.8	5.0	5.1
16.	1.0	1.9	2.6	2.0	1.0	3.4	2.7
	3.6	3.6	4.3	3.8	3.2	4.1	3.6
17.	3.6	3.5	2.5	3.8	2.2	3.4	2.8
	4.5	4.0	5.1	4.8	3.8	4.0	4.7
18.	3.7	4.4	3.6	5.2	3.5	3.6	3.1
	4.7	5.5	5.3	6.0	4.8	4.9	4.4
19.	3.4	3.9	4.0	4.2	2.9	4.1	3.2
	4.5	5.1	6.1	5.3	4.8	5.0	4.7
20.	3.1	3.2	2.4	3.3	3.3	3.3	3.9
	5.2	4.6	5.3	5.3	5.3	4.8	5.0
21.	2.8	2.6	2.3	1.8	1.5	2.3	2.3
	3.3	2.3	2.7	1.8	1.4	2.5	2.8
22.	5.0	4.6	4.0	5.7	7.9	3.3	3.9
	7.9+	5.8	7.7	7.9+	7.9+	5.3	5.2
23.	1.8	2.6	2.8	2.3	1.5	2.7	2.7
	4.0	3.0	4.7	4.1	5.1	3.3	3.4
24.	2.8	3.0	2.4	1.8	1.5	2.5	2.1
	3.8	3.9	5.1	3.5	3.8	4.1	3.9
25.	2.9	3.5	2.8	3.1	3.1	3.9	3.0
	4.7	4.6	5.5	5.0	6.9	4.8	5.0
26.	3.1	3.6	3.0	4.0	3.9	3.9	3.9
	4.7	4.7	5.5	5.0	4.8	4.8	4.9
27.	3.0	3.7	2.6	4.0	3.2	3.8	4.1
	4.5	3.9	5.5	6.0	4.7	4.2	4.7

Workshop Way (7 months)
Stanford Achievement Test -- Grade One
Top Row for each student - April 1969
Bottom Row for each student - April, 1970

Our Mother of Mercy School
Churchpoint, La.

Table shows progress of pupils who were very immature in the 1968-69 school year. When they had Workshop Way in 1969-70 school year - same grade, they began to learn.

Grade Equivalents

	Word Meaning	Para. Meaning	Vocabulary	Spelling	Word Study	Arithmetic	Total Reading
1	1.1	1.6	1.3	---	1.3	1.4	1.5
	1.7	2.0	1.4	3.4	2.0	2.3	1.8
2	1.1	1.6	1.1	1.0	1.2	---	1.5
	1.4	1.4	1.8	1.7	1.5	1.6	1.5
3	1.3	1.4	1.2	1.0	1.3	1.2	1.4
	1.5	1.6	1.3	2.3	1.5	1.8	1.6
4	1.0	1.2	1.2	---	1.2	1.2	1.1
	1.4	1.3	1.7	1.9	1.5	1.7	1.4
5	---	1.2	1.4	1.1	1.0	1.1	---
	1.7	1.6	1.5	2.4	1.9	1.9	1.7
6	1.0	1.4	1.4	1.4	1.3	1.2	1.2
	1.9	2.0	2.0	2.3	2.8	2.1	2.0
7	1.6	1.4	1.3	---	1.1	1.1	1.5
	1.6	1.8	1.5	2.2	1.8	1.6	1.7
8	1.1	1.5	1.3	1.0	1.3	1.2	1.5
	1.6	1.9	1.8	3.4	2.0	2.2	1.8

PERCENTILES

1	8	50	12	--	20	28	36
	70	92	23	99	76	89	84
2	8	50	2	12	11	--	36
	32	22	56	62	40	50	36
3	20	22	6	12	20	12	24
	40	50	12	89	40	66	50
4	2	10	6	--	11	12	6
	32	14	54	74	40	60	24
5	--	10	23	20	2	4	--
	70	50	38	92	68	72	74
6	2	22	23	40	20	12	10
	86	92	64	89	94	82	92
7	50	22	12	--	6	4	36
	50	86	38	86	62	50	74
8	8	36	12	12	20	12	16
	50	90	56	99	76	86	84

CHAPTER TWO

Philosophy of the Workshop Way and Related Literature

The author has written four manuscripts on the Workshop Way:

The Workshop Way
Reading the Workshop Way
Daily Logs from a Workshop Way First Grade
Personality-Phonics Activities - Grade One

In order to describe the Workshop Way as it is used in first and second grades the author will include a second book in her report on this research. Reading the Workshop Way will be adapted to include many practical helps for teachers who may desire to experiment with the system's organization and techniques. The philosophy, psychology and techniques may be adapted to any grade level.

SUMMARY OF THE WORKSHOP WAY THAT EVOLVED IN THE AUTHOR'S CLASSROOM OVER A PERIOD OF TWENTY YEARS OR MORE:

The Workshop Way is an innovative way of providing an effective teaching-learning environment in disadvantaged areas by combining a special organizational plan of the social and physical features of a classroom with a homework vocabulary project, parental involvement, flexible scheduling and Personality-Phonics Activities.

The Workshop Way is an effective educational matrix because it puts "first things first" in the development of the learning process. It begins by providing experiences that will develop and nourish the basic dispositions of the nature of the child. (The disadvantaged child is a child first and then disadvantaged.) The system adopts a set of positive attitudes that provokes positive reactions in the pupils. Basic needs of pupils are thereby satisfied.

Jacques Maritain names five basic dispositions of children according to their nature:[1]

1. Children naturally love the truth, meaning knowledge.
2. They love what is good and just.
3. They accept existence as it is with all its human limitations.
4. They have a desire to finish tasks and a sense of respect for a job well-done.
5. They have a sense of cooperation.

---

1 Jacques Maritain, Education at the Crossroads(Yale University PRess, 1943) pp.36-38.

Although by nature a child is disposed to these tendencies, these can remain dormant unless they are deliberately and systematically developed and nourished. The Workshop Way develops and nourishes these dispositions by conditioning the physical and social environments for effective teaching-learning situations which provide the experiences essential for attaining the objective.

PHYSICAL ORGANIZATION OF THE CLASSROOM

To accomplish these goals it is necessary to organize the furniture and materials so that the pupils understand this organization so well that they can work independently of the teacher with security. A schedule of tasks is on the board. The pupils can look at the symbols and relate them to certain kinds of jobs. This is what is called the PHYSICAL ORGANIZATION OF THE CLASSROOM.

The workshop schedule is a series of numbered tasks which the children do in order and independently of the teacher. There is no schedule when school opens. Each task must be taught before it is placed on the board. The first few tasks are designed so that the pupils will develop concentration and awareness of their ability to study and to accomplish things. All the children begin on #1 and then do the tasks at their own speed. More difficult and challenging assignments can be placed later on in the series of tasks for the more able students. Most of the tasks should be self-satisfying and self-corrective. Others can be okayed by an aide or another pupil. There is a short period in the morning and again in the afternoon when the teacher can check "Thinkers."

The workshop schedule will only be an instrument of growth if the pupils are really free to work according to their NOW ability; that is, their present rate of learning, their present rate of movement and their present type of character traits. For example, if a pupil is a careless child now, his work will probably have a careless appearance. This has to be accepted today. If it is not accepted and the pupil is verbally scolded and pushed to produce the quality of work as it exists in the mind of the teacher, the tasks will merely be kinds of seatwork and can only expect to bring about the effects of isolated seatwork assignments. They will not comprise an instrument of growth.

To really be an instrument of growth, each day the workshop schedule has to be read, interpreted and completed according to the way it exists in the mind of the children and not in that of the teacher. The teacher must RISK ALLOWING THE CHILDREN TO WORK TODAY THE WAY THEY ARE TODAY.

SOCIAL ORGANIZATION OF THE CLASSROOM

The physical organization is not enough to take care of all of the needs of our children. There must be a special "Social Organization of the Classroom" if the basic needs of the children are to be met. This we conceive of as an atmosphere activated by the operation of five freedoms which liberate the children for learning. They are:

Freedom from Fear
Freedom of Movement
Freedom of Location and Position for Work
Freedom of Conversation While Working
Freedom of Choice Frequently

HOMEWORK VOCABULARY PROJECT

Pupils take home a duplicated paper of phrases or words every day. The minimum assignment is one more word or one more phrase. But each child is FREE TO DECIDE TO STUDY AS MUCH AS HE WANTS. (This means to practice reading phrases orally.) Whatever the student studies and knows well he will be able to read to the teacher the next day.

No set time can be planned for the hearing of the homework. How long it takes to hear everybody depends upon how much the pupils decide to study each night. IT IS PSYCHOLOGICALLY IMPORTANT THAT THE TEACHER BE CONSISTENT IN ONLY HEARING WHAT A CHILD STUDIES AND CAN READ WELL. If the teacher permits the children to touch each word, to read haltingly or even to read from a new lesson on the same day he is given another paper because he lost his, the intrinsic motivation for the pupil will be lost and the primary purposes of the procedure will be defeated. The purposes for the pupils are:

1. To provide a daily success experience for each child.
2. To develop a pleasant way of speaking to another person-communication with a smile.
3. To develop the desire to study something at home.
4. To develop responsibility by having pupils remember to bring their papers every day.
5. To provide an opportunity for recognition of pupils' efforts.

PARENTAL INVOLVEMENT

Parents are permitted to go into the Workshop Way classrooms at any time on any day to sit by their children or other pupils or to help the teacher according to their talents. They cannot engage the teacher in conversation during the school day.

If pupils are slower learners, they will need assistance if they are to learn how to read. Therefore, as early as possible, parents or other adults should be invited to help these youngsters follow the workshop tasks, work puzzles and do readiness "Thinkers." Such activities will bring the pupils to a condition in which they will be able to begin to learn how to read. The stress and pressures of living in poverty effect children. They come to school with confused minds. So any activity that will bring order into their minds will prepare them earlier for academic learning and bring the pupil nearer to the reality of becoming a reader.

Harmonious home-school relations are vital in the formation of positive attitudes of children towards learning. When parents are allowed in the classrooms and see what is going on, suspicions and misunderstandings between parents and teachers decrease.

FLEXIBLE SCHEDULING AND ORGANIZATION OF THE CURRICULUM

The time factor is a vital issue. There can be no rigid time schedule. All children must be able to finish tasks begun and to work at their own rate of movement as well as rate of learning. Emotional development must happen as well as other kinds of growth in children.

Individual differences require different amounts of time daily for reading lessons if all the children are to learn how to read in the first grade. Some children need only one lesson a day while others will need two formal reading lessons daily. If this timing is carried out faithfully the children will read unless they are physically or organically defective.

Children do not need all day for reading but the teacher needs almost all day to teach reading if she is to see that every child's right to learn how to read in our society is respected. This is the only way a teacher can get all of her pupils to read and to love reading. For this first year other elements in the curriculum must be sacrificed as far as formal teaching is concerned. If a person is in danger of dying, he must have air to breathe. If our children are to have healthy self-concepts, they must learn how to read because pupils are required by law to remain in the classroom until they are sixteen years old. Therefore, the ability to read is as important as breathing for our youngsters. One can hardly conceive how any human being can survive from ten to twelve years of daily suffering of humiliations, failure and punishments in the classroom as non-readers and come out psychologically and emotionally sound.

PERSONALITY-PHONICS ACTIVITIES

An intensive phonics program is considered very important for all children especially in disadvantaged areas. Children will read if they have security in pronouncing words even if, at first, they do not know the meaning of the words. If they love reading, they will read much. The more they read, the greater will be the possibility that they will unlock the meaning of many words in context.

The dynamic, philosophical idea underlying this system is the conviction of the teacher that ALL CHILDREN CAN LEARN AND THAT ALL CAN LEARN TO A MUCH GREATER DEGREE THAN THEY ARE NOW DOING. The dynamic, psychological idea underlying this system is that FOR THE TEACHER there is no such thing as the normal bell curve.

Success in the Language Arts becomes today a matter of grave importance for every American child. In a highly technical democratic society, there will be no more ditch-digging jobs. An education of excellence becomes a MUST for every pupil in our schools. Without a firm foundation in the area of Language Arts this would be impossible. Success in school in our society is essential if our children are to develop healthy self-concepts. How a child views himself is a strong factor in determining the quality of his personality traits. Since success in school depends upon achievement in the Language Arts --this becomes a MUST for every American Child.

The teachers are the directors of growth in the Workshop Way. Their positive attitudes and strong convictions about children and the learning process make it possible for them to:

1. To reverence the dignity of the person in each child.
   a. Acceptance of pupils as they are while "becoming."
   b. Understanding that complete concepts are learned gradually. During the process of their formation, pupil responses change as the person can only act according to his understanding of things at any particular stage in the process.

2. To believe that all children can learn. For the teachers there is no such phenomenon as the normal bell curve. They profit by:
   a. Belief that every child can learn unless he is physically or organically impaired. Unless she has medical certainty of the latter, her conviction becomes the driving force that will make her fearlessly use creativity in finding ways to help each child learn.

      'If a child has a low IQ on paper in an inner city school, the teacher must watch her attitude towards his ability to learn.

   b. Individualization

   c. Remembering one guide line: Every child must succeed.

3. To use a positive approach in dealing with the children and their problems.
   a. Positive thinking in using policies and techniques
      e.g. pointing out what is right ... trusting children even at a risk ... expecting wonderful things to happen ... using constructive forms of punishment (if "punishments" are needed) - better yet, preventing need for punishment.

      Knowing the reason one does what he has to do puts the pupil in a cooperative frame of mind immediately. Children love to follow a plan once they understand it.

   b. Other elements making for an effective learning climate are happiness and a peaceful atmosphere devoid of teacher nagging and verbalization directing the students at every turn.

4. To sense the values that clearly allow them to see the difference between people and things:
   a. Behavior reactions of pupils to the teacher's lack of respect towards them are experiences that dig deeply into the spirit of the pupils and leave negative imprints on their developing self-images. A year of this brand of treatment can hurt a growing child.

b. Children are more important than things (rigid structures, time schedules, and traditional behavioral patterns)

c. Happiness or abandonment can be produced in our classrooms, depending upon which emotional sets are allowed to operate therein - fear and hatred or love and peace.

5. To realize that, early in the educative process, children have a need to learn whatever they learn so well that they become AWARE of their power to learn. Therefore, the teacher must be able to change when any situation calls for this in the curriculum, time schedule, and structure for teaching children in order to help pupils fulfill this need.
   a. Pupil needs will determine what is to be taught, how it is to be taught, and how long it will be taught.

   b. The beginning, middle, and end concept is a very important one and should be developed as early as possible. Experience banks are vital.

6. To appreciate the attempts of the children to do things on their own and in their own way according to their standards at any time along the way of development.
   a. Rate of learning and rate of movement are different in different individuals.

   b. Administrative support is necessary:
      (1) To understand so teachers will not hesitate to allow noise and movement. Teachers do not want to be thought of as weak disciplinarians.
      (2) To give permission to enable the teacher to handle the curriculum and time schedule so that all pupils can learn at their rates.
      (3) To believe that perfection of the human faculties must go through stages of apparent disorderliness and with accompanying educational noises, especially in the primary grades.

7. To desire to dedicate oneself to the career of teaching because it is seen as a special challenge and a special need of our day if our American democracy is to be protected from deterioration from within its members.
   a. Education fits a man for intelligent living. Lack of education renders the adult unable to function fully as a human being.

   b. Teaching must be given a much more prominent place in the order of professions. More male teachers are needed in primary grades but there will not be unless prestige and salary attract and enable men to stay there. One can't live just on dedication.

   c. Freedom can only be for the individual who becomes capable of using human faculties.

See the BIBLIOGRAPHY for names of books and articles that many teachers have found valuable to read as background information for a better understanding and appreciation of the Workshop Way.

CHAPTER THREE

Research Design

Six elements are organized in a special way to form the system of education called the Workshop Way. They are:

1. Physical Organization of the Classroom
2. Social Organization of the Classroom
3. Homework Vocabulary Project
4. Parental Involvement
5. Flexible Scheduling and Organization of the Curriculum
6. Personality-Phonics Activities

The combination of these components forms the Workshop Way that evolved over a period of twenty years or more under the direction and guidance of the author. The components showed a unique structure in 1959 at St. Elizabeth's Grammar School in Chicago. Such an organization of elements permits the teacher to individualize either all or part of her total program. Any structure for teaching can be used: whole class, when no one would be engaged in the workshop, group teaching, individual teaching, pupil-pupil teaching, and independent study either by using programmed materials already on the market, by prescribed programs, or simply by private study on one's own, as in the case of a gifted child or any exceptional child.

Although the system yielded consistent positive results on both intelligence tests and achievement tests from 1959 to 1967 in an inner-city school in Chicago and in 1967 to 1969 in schools in disadvantaged areas in New Orleans, the achievement and intelligence tests were given as a part of a total school program and were not coordinated with any scientific attempt to evaluate the structure, programs, and materials of the Workshop Way. It was felt that there was a need for such an evaluation in order to ascertain if the Workshop Way is truly of any significant value in providing an effective teaching-learning environment.

PURPOSE: Consequently the purpose of this study was to determine whether the Workshop Way was effective in enabling students in disadvantaged areas to make greater strides in their mental, academic, and personal-social adjustment than students of non-workshop classrooms. The system would be tested in a small scientifically controlled experiment.

LIMITATIONS

Research in the social sciences has to deal with problems which are generally more complex in nature than those in the physical sciences. In educational research human beings are involved. This limits the investigator's ability to control the variables connected with the experiment. It is obviously impossible to control the enthusiasm and

zeal of the teacher and the motivation he generates in his students. Randomization is a must in any research. This means that the balance necessary for this study will have to be attained within the areas of control and replication. A compromise, in such a case, may be made between what is "administrative feasible" and what is "scientifically rigorous". As for the motivation variable, the method itself which involves the pupil-directed approach takes care of that. Mouly states:

> There would be nothing wrong, of course, with incorporating enthusiasm in the experiment when differences in enthusiasm are inherent in the methods. To the extent that the pupil-directed approach to learning is more closely synchronized with the child's needs, goals, and purposes, for example, it might be expected to have greater pupil motivation than the teacher-directed method. It would be incorrect to attempt to equalize pupil motivation in such a study, for it would destroy the variable under investigation.[1]

Since teachers are human beings and human beings are unpredictable: especially to people who know nothing about them, an investigator has to risk in the area of the teacher if he decides to have nothing to say about the choice of the teacher. This risk was taken in the study. It proved to be an obstacle to the greatest success possible with the Workshop Way since one teacher was unable to attend sessions at which the teachers were taught how to use the Workshop and soon after her acceptance, events out of the control of the researcher changed her attitude towards the experiment. It was difficult to find a time to make up the instructions so the investigator resorted to trust that the teacher would learn through written instructions.[2] During the year the teacher's attitudes grew more favorable for the Workshop Way because of success to a greater degree than she had ever experienced.

STATEMENT OF THE PROBLEM (As given on original proposal)

The Workshop Way is basically an innovative way of conditioning the physical and social environment in such a manner that effective teaching-learning can take place. The physical environment is conditioned by means of a scheme of organizing the physical features of a classroom. This is conceived of as a structural workshop of tasks that the children do independently of the teacher. These tasks are numbered and the students must do them in the order in which they are arranged. The tasks are geared to the development of concentration, love of study, and ability to think critically. Types of workshop tasks include word

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[1]George J. Mouly, The Science of Educational Research (New York: American Book Company, 1963), 333.

[2]Reading the Workshop Way, an unpublished manuscript written by the author of the Workshop Way system of education, 1969.

building in individual desk charts, arranging patterns or letters or numerals on a piece of paper to demonstrate the possession of orderly study habits, writing numbers in such a way that patterns are formed to let the pupils know if they are proceeding correctly, tracing pictures and filling the outlines with parallel lines, making things with clay, working puzzles, doing "Thinkers," (educational games designed to give pupils practice on one skill at a time), chalkboard practice, free choice of reading matter, creative art work, listening lessons on tape recorder, drill cards on the language master, partner reading, partner spelling, partner practice in writing, and many more. Each task begun must be completed and is completed at the child's own rate of speed. The total number of tasks placed in the workshop are never completed by all the pupils by the end of the day. Even though only from three to five pupils finish each day, all pupils begin with the first task listed in the workshop each new day.

The social environment is conditioned by the following five freedoms: freedom from fear, freedom of movement, freedom of conversation, freedom of location for work and freedom of choice.[3] Respect for the dignity of all persons is also an operative principle that is maintained in the total organization of methods, techniques, and exercises.

These "conditioners" described in the foregoing paragraphs are supported by a homework plan, a phonics plan, and flexible scheduling. The author continued to improve the original structure of the Workshop Way in the ensuing years and it has yielded consistent positive results on both intelligence tests and achievement tests from 1963 to 1970 in schools in disadvantaged areas. It is being used successfully in a Home Head-Start Program at Xavier University and in a kindergarten at Holy Ghost School in New Orleans.

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[3]A detailed description of the meaning of these five freedoms is given in manscripts written by the author, and may be obtained by sending check or money order with your request to: Sr. Grace Pilon
Xavier University
7325 Palmetto Street
New Orleans, La. 70125

The Workshop Way $10.00(320 pages)
(Grades 1 to 3 in detail) Philosophy and psychology can be adapted to any grade level.

Reading the Workshop Way $5.00 (143 pages) Geared to Grades 1 and 2 only. Can be used in kindergarten for Readiness and Personality Growth.

Personality-Phonics Plans(Grade 1) $3.00 (147 Lessons)

Daily Logs in a Workshop Way First Grade (Soon to be printed) Tells what happened throughout the year that was effective for learning.

For the purposes of this study the term mental development is to be limited to the following areas: achievement in the receptive skills of the language arts skills, that is reading and listening; and achievement in the mathematics area. Personal-social development is to be thought of in terms of growth and development only in the personal adjustment and social adjustment with special emphasis upon adjustment to the school environment.

OBJECTIVES

(1) To determine if the unique combination of a special physical and social organization of a classroom with a homework plan, a phonics program and flexible scheduling and parental involvement as found in the Workshop Way causes a significant difference between the rate of mental, academic, and personal-social development of first grade students of Workshop Way classrooms and in students of non-workshop classrooms.

(2) To determine if students who continue working in workshop classrooms continue also to make more rapid progress in their mental, academic, and personal-social development than do students who no longer continue in workshop classrooms. Interest is in long term as well as short term achievements.

(3) To determine if there is any transfer of skills learned through the Workshop Way to subjects not formally taught in the Workshop Way classroom in a separate period.

REVIEW OF LITERATURE (as original research director wrote in proposal)

The author has written many unpublished pamphlets describing the various features of the Workshop Way. In one pamphlet called the WORKSHOP WAY - THE FIRST FIVE DAYS OR MORE IN THE FIRST AND SECOND GRADES, she gives complete directions for establishing the Workshop Way in a classroom. In the pamphlet TEACHER'S INSTRUCTION FOR THE PRIMARY PHONICS PLANS, she gives a more detailed procedure for the teaching of phonics and also the goals of the phonics program. Her rationale for following the same procedure every day in phonics is quoted:

> We must face reality. The success of the class depends upon the preparedness of the teacher. When the plan is kept simple and definite, the teacher becomes secure in carrying it out. The children become secure because they know what to expect and come to know that they can participate in the lesson without fear. This begets in them an enthusiasm which spills over onto the teacher. The teacher is then willing to make the necessary materials. These materials are in constant use, once made.

A hundred and forty-three "Thinkers" are listed and described in the pamphlet SUGGESTED THINKERS FOR THE GRADES. The content of each 'Thinkers' is drawn from most of the areas of the curriculum. In THE WORKSHOP WAY -

200 SERIES, additional arithmetic concept "Thinkers" are described. Separate pamphlets on art concept "Thinkers," social studies concept "Thinkers", and science concept "Thinkers" are in the process of being written.

In the pamphlet entitled THE WORKSHOP WAY, A SYSTEM OF EDUCATION FOR INDIVIDUALIZATION, the author describes fully the meaning of the five freedoms, along with the basic principles underlying the Workshop Way and a description of a typical day in the workshop classroom. The underlying philosophy, the organization of the physical features, the homework plan, the social organization and the daily schedule followed in workshop classrooms are all described in detail in a pamphlet called simply THE WORKSHOP WAY. Other pamphlets, THE WORKSHOP WAY, A DESCRIPTION and HIGHLIGHTS OF THE WORKSHOP WAY give brief summaries of its features.

Finally the author has written a book on the WORKSHOP WAY, describing its origin, its history, its results, and its features[4] Several newspapers and magazine articles have been written also about this system.

PROCEDURES (as written in proposal and not as corrected as problems were met and solved)

A. First Grade Experiment

1. Two schools will be selected in the target area of a model city.

2. The first grade teachers in each school will be asked to volunteer to participate in the study. They will be told that the initial enrollment will be 35 pupils so that at least 30 pupils will be in the classes at the close of the year. Each teacher will receive a bonus of $200 for the year. Each teacher will have an aide for two hours a day. The names of the volunteers in each school will be placed in a box and two drawn to be the teachers. Then the Workshop Way teacher will be chosen randomly by lot from the two and taught accordingly. Her classroom will be considered the experimental group in the experiment.

3. In the beginning of the second full school week of the 1969-1970 school year, the first grade children of each school will be given the Metropolitan Reading Readiness Test. A structured random sample according to the results of this test will be the means for selecting the pupils. The following sentences describe the variables to be considered in the selection of the groups: (1) prior school experience, (2) no known severe physical or organic defects, and (3) low scoring on the test. After the test is administered and scored, the pupils with prior school experience will be removed. Any child with a visible or

4 Pilon, Grace H., The Workshop Way (privately printed: New Orleans, 1970) This book and the two given in the footnote on page 29 replace the pamphlets..

known severe physical or organic defect will also not be eligible in either class. Beginning with the lowest scores in each school, 35 pupils will be counted for the research project. After this procedure the Workshop Way class will be established as the experimental group and the other classroom as the controlled group for this experiment.

4. In the beginning of the third full week of the school year 1969-1970, the Pintner-Cunningham Primary Test, Form A, will be given both groups for the purpose of measuring mental growth during the school year.

5. At the end of the third full week of the school year, the Form A of the California Personality Test will be administered to both classes for the purpose of measuring personal-social growth.

6. Those children in the workshop classroom who score similarly on the three tests described in the preceding paragraphs with those in the control classroom will form the matched pairs of this experiment. The matched pairs will form a sub-group of the group selected according to the Readiness Test. This is being done in order that a more complete eveluation will be possible.

7. The investigator will make systematic observations one morning every week in each classroom to observe the personal-social growth of the matched pairs. If the matched pairs number more than ten, then ten will be chosen randomly by lot for this observation.

8. Four weeks before the end of the 1969-1970 school year, Form B of the California Personality Test, Form B of the Pintner-Cunningham Primary Test, and Form A of the Metropolitan Achievement Tests: Primary I Battery will be given to the first graders in the research project.

The Pintner-Cunningham Primary Test was chosen because it correlates positively with the Stanford Binet Intelligence TEst and hence it is a valid measurement of general mental ability. The format of the test is divided into sections that could be used as variables for statistical purposes. The Metropolitan Reading REadiness Test was chosen because it conforms with tha testing program used in the Orleana Parish System. The Metropolitan Achievement Test was chosen to follow the Metropolitan Reading Readiness Test since the pupils were not to have prior formal school experience and hence no academic achievement test could be given in the beginning of the year. The California Personality Test was chosen because it can he used with first and second graders.

In all classrooms the books, supplies and equipment will be similar except for those materials unique for the Workshop Way and created by the author. The Hawthorne Effect is recognized to be a basic ingredient of tha Workshop Way; therefore there will be no attempt to control it in either the first or second grade experiment.

B. Second Grade Experiment

1. The second grade teachers at Danneel School #2 will be asked to volunteer to teach in the research classrooms. They will be told that the initial enrollment will be 36 pupils so that at least 30 pupils will be in the classes at the close of the year. No new pupils will be admitted to the classes during the year. Each teacher will have an aide for two hours a day. Each teacher will receive a bonus of $200 for the year. The names of the volunteers will be placed in a box and two drawn to be the teachers. If no Workshop Way teacher's name is drawn, the teacher of the experimental class will be chosen by lot and then taught to teach the Workshop Way.

2. In the first full school week of the 1969-1970 school year, the second graders in Danneel School #2 will be given the Stanford Achievement Test: Primary I Battery. A structured random sample according to the results of the reading tests will be the means of selecting the pupils. The following sentences describe the variables to be considered in the selection of the group. (1) Pupils had Workshop Way in the first grade, (2) they had no known severe physical or organic defect, and (3) their scoring on test. Pupils not having the Workshop Way in the first grade will be removed. Any child with a visible and known physical or organic defect will be ineligible for the research project. The remaining pupils' test booklets will be stacked in order of ascending scores. The two teachers will then take turns in removing the booklet on the top of the pack beginning with the highest scores and stopping when each teacher has 18 of the better pupils. The teachers will then follow the same procedure beginning with the lowest scores. Each teacher will have an initial enrollment of 36 pupils. After this the Workshop Way will be established in the experimental classroom.

3. At the end of the second full week in the school year, 1969-1970, the Pintner-Cunningham Primary Test, Form A, will be given to all the pupils in both groups.

4. At the end of the third full week in the school year, the California Personality Test, Form A, will be given to both groups for the purpose of measuring personal-social growth.

5. Those children in the workshop classroom who score similarly on the three tests described in the preceding paragraph with those in the other classroom will form the matched pairs of this experiment. The matched pairs will form a sub-group of the group selected according to the Achievement Test. This is being done in order that a more complete evaluation will be possible.

6. Three weeks before the end of the 1969-1970 school year, the Pintner-Cunningham Primary Test, Form B, the Stanford Achievement Test, Primary II Battery, and the California PErsonality Test, Form B will be administered. The findings will be used to show whether the Workshop Way is an effective system of education for the disadvantaged in their mental, academic, and personal-social development.

The Pintner-Cunningham Primary Test and California Personality Test were chosen for the same reasons as for the first grade. The Stanford Achievement Tests: Primary I Battery was chosen as a reliable test upon which to base the selection of pupils for this experiment. It was also chosen because it was planned to used the Stanford Achievement Test: Primary II Battery at the end of the school year to measure academic growth for the two groups. This latter test contains tests in other subject areas that are not taught formally in a separate period in the workshop classroom: spelling, language, science and, social studies. Findings will show if there is any transfer of skills learned in the workshop to these areas.

In all classrooms the books, supplies, and equipment will be similar except for those materials unique for the Workshop Way and created by the author of the system.

RESULTS OF THE STUDY (as quoted from original proposal)

Raw scores will be converted according to the tables prescribed in the various tests, compared, described verbally as well as in charts and histograms, and evaluated.

Statistical Analysis will be directed by a member of the faculty either at Tulane University, Xavier University, or some competent university who would be qualified to lend services in this area of the project. The budget allows for funds to make use of computerized statistical descriptions, also. Since the testing in this research is designed to show comparisons between the progress of disadvantaged pupils in two different types of educational systems in terms of measurement, the T test will most likely be used to find out if differences are significant.

The instrument used for measuring the observations of personal-social growth will be a five point rating scale. This rating scale will be formed in June of 1969 after the investigator has had more opportunity to observe the behavior in workshop classrooms in order to ascertain the kinds of personal-social growth that is typical in workshop classrooms. Therefore the rating scale cannot be attached at this time.

The rating scale will be based upon this pre-observation of workshop classes and the following sources:

(1) The personal-social traits listed on the report card of the Orleans Parish School Board.

(2) Various topologies that have been formulated in the field that can or does relate to personal-social adjustment in school, including J.P. Gilford's S.T.D.CR. factors.

(3) Forms of misbehavior that are reported as typical in ghetto schools. (An example would be the five factors listed in Sidney Trubowitz's A HANDBOOK FOR TEACHING IN THE GHETTO SCHOOLS.)

(4) Types of behavior that are considered problematic by school teachers as revealed by surveys and reports as G. McCornell's article, "Behavior That Annoys Teachers" in the 1963 edition of the ELEMENTARY SCHOOL JOURNAL.

Should the experiment show that the Workshop Way causes a greater difference in the mental, academic, and personal-social development of children in disadvantaged areas, then the Workshop Way may be offered, with some degree of validity and reliability, to be used on a larger scale for further testing and study in such areas to interested educational agencies and systems awaiting the results of the study. Results of the appraisal will also include a description of the usability and economy of the Workshop Way. Usability refers to the degree to which the Workshop Way can be employed by teachers and school administrators. Economy refers to the degree to which the skills learned through the Workshop Way are transferred to other areas of the curriculum, that is, other areas apart from reading and mathematics.

Should the experiment not show that the Workshop Way causes a greater difference in the development of children, either generally or among certain children only, the identification of causes will be sought and a diagnostic appraisal will be given. This will be based upon data obtained from the matched pairs, which will make it possible to identify patterns of achievement, if any, among children who began with similar characteristics. This could also lead to further experimentation with children of similar characteristics if the need warrant it. Insights will be gained in the teaching of children in disadvantaged areas and the appraisal should reveal possible specific strengths and weaknesses of the Workshop Way and the non-workshop classrooms. Final results from the appraisal should lead to the delineation of one way of providing an effective teaching-learning environment for children in disadvantaged areas. In the words of Bell, "Don't keep forever on the public road, going only where others have gone, Leave the beaten path occasionally and drive into the woods. You will be certain to find Something you have never seen before."

CHAPTER FOUR

Experimental Procedures

FIRST GRADE EXPERIMENT

At first two public schools were selected in the target area of a model city in cooperation with the Orleans Parish School Board. Later an additional school was selected to become part of the first grade experiment. It was selected because it was an integrated private school in a disadvantaged area that had been named as a school that met the requirements of Title I schools. Efforts were made to see that the schools had the following features:

1. Similar Administrative policies
2. Similar size of population
3. Similar number of first grade pupils and first grade teachers
4. Teachers who have similar qualifications and experience
5. Similar social-economic environment

The choosing of the teachers in all schools was left up to the principals and the first grade teachers. Each teacher was asked to have 34 pupils. Each teacher was told that there would be a bonus of $200 for the year. Each teacher would have an aide for two hours a day. The experimental teachers would be taught the Workshop Way in ten sessions as well as have the program coordinated by the author of the Workshop Way throughout the year.

TEACHER TRAINING

A series of ten instructions on "How to Teach the Workshop Way" was begun after the teachers were chosen. Content of instructions included:

1. What the Workshop Way is and Philosophy and Psychology of the System.
2. Homework and Parental Involvement
3. Personality-Phonics Activities
4. Conditioning of the Physical Environment (Workshop Schedule)
5. Conditioning of the Social Environment (5 Freedoms and 5 basic dispositions of children)
6. How to begin to Teach the Workshop Way - Thinker REadiness
   Immediate Success
   Teach children about Human Beings
   Phonics Plans
   Homework Project
7. Flexible Scheduling and Curriculum
8. Thinkers
9. Methods and Materials
10. Workshop Way Reading Program

Students of control and experimental groups were to have been selected according to the results of the Metropolitan Readiness Test. However, there were not enough children without prior school experience in any of the schools

to fill a classroom. Therefore, the test was not used as a means of selection of pupils. This was unfortunate in that it meant that the pupils of the classrooms could not be chosen with similar abilities. Previous class enrollments in the schools chosen had indicated that scientific class selection would be possible. Therefore, to equalize teacher enrollment loads six pupils who had failed in the first grade in the preceding year were added to each class in the research project.

The next step in the program was to administer pre-tests to all pupils in the control and experimental classrooms. The new revised issues of the tests were used. The tests were given as follows:

Test	Date Given
California Test of Personality Form AA (except section 2D)	Class 1 - October 3, 1969 Class 2 - September 16, 1969 Class 3 - September 17, 1969
Pintner-Cunningham Primary Test Form A	Class 1 - October 4, 1969 Class 2 - October 3, 1969 Class 3 - October 4, 1969

The Workshop Way began in the experimental classrooms on October 13, 1969. From now on in this report the schools that participated in the research will be designated as:

Class 1 - First Grade Experimental group (Workshop Way in an integrated private school)
Class 2 - First Grade Experimental group (partial Workshop Way in a public school)
Class 3 - First Grade control group in a public school

After examination of the pre-test results, five matched pairs between class 3 and class 2 were selected as special pupils to be observed in a scientific manner throughout the school year. Three pairs were chosen between class 3 and class 1. It was impossible to get more than three matched pairs between the control and experimental class. The original design called for twenty-four hours of observations on each member of the paired groups. However, in reality, because of absences or holidays occurring on the specified days - the first two days in each week, only ten observations were made on some of the members. Therefore, only ten observations were used in the final results. The observations of those who were observed more than ten times were chosen to match the times nearest the other members of the pairs.

The books, supplies and equipment were similar in all the classrooms except for those materials unique for the Workshop Way.

As stated in the project proposal, no attempt was made to control the Hawthorne Effect since it is a basic ingredient of the Workshop Way. In this particular research it should be mentioned that the teacher in experimental class 2 did not take on the "effect" because of unforeseen circumstances which brought about negative attitudes towards the system at the beginning of the school year. As the year progressed, the evidence of the effectiveness of the system for personality development generated enthusiasm in the teacher.

Post-tests were administered as follows:

Test	Date given
California Personality Test - Form BB (omitting section 2D)	Class 1 - April 27, 1970 Class 2 - April 27, 1970 Class 3 - April 28, 1970
Pintner-Cunningham Primary Test - Form B	Class 1 - May 7, 1970 Class 2 - May 6, 1970 Class 3 - May 6, 1970
Metropolitan Achievement Test - Primary Battery I - Form A	Class 1 - May 18,19, 1970 Class 2 - May 26,27, 1970 Class 3 - May 19,20, 1970

SECOND GRADE EXPERIMENT

Danneel Public School #2 in New Orleans, La. was chosen for the research since all the first graders were in Workshop Way classrooms to some degree during the 1968-69 school year. Circumstances did not permit the teacher to be chosen at random as stated in the proposal. By chance there was only one teacher who could be asked to be the teacher of the Workshop Way in the second grade.

The Stanford Tests did not arrive in time to be used as the basis for the selection of pupils in the research classrooms. So the pupils were selected in this way. The second graders had taken the Metropolitan Achievement Test in the first grade in April, 1969. Their booklets were stacked in order of ascending scores. The two research teachers took turns in removing the booklet on the top of the pack beginning with the highest scores and stopping when each teacher had 18 of the better pupils. The teachers then followed the same procedure beginning with the lowest scores. Each teacher was to have 36 pupils. Because of very uneven class loads, the principal asked to reduce the number to 34. This adjustment was made by removing the lowest scorers in the best groups and the highest scorers in the lowest groups.

Pre-tests were given to the experimental and control groups as follows:

Test	Date given
California Test of Personality - Form AA	Class 4 - Workshop Way 9-11-69 Class 5 - Control 9-11-69
Pintner-Cunningham Primary Test - Form A	(not used, see below)
Stanford Achievement Test Primary I BAttery - Form X	Class 4 - Workshop Way - Sept. 23,24, 1970 Class 5 - Control Sept. 25,26, 1970

When the Pintner-Cunningham Primary Test was scored, it was found that the IQ's computed according to chronological age of the second graders could not possibly be so low for so many students. We found that we had erred in selecting this test for our purpose. Therefore we gave the:

Otis-Lennon Mental Ability Test Form J - Elementary I	Class 4 - Workshop Way Dec. 11, 1969 Class 5 - Control Dec. 11, 1969

The Workshop Way began to operate in the second grade experimental classroom on October 15, 1969.

Five matched pairs from the research classrooms were selected on the basis of the results of the three pre-tests. Systematic observations of behavior traits as seen in the matched pairs would be arranged. The research director planned that each pupil of the matched pairs would be observed for twenty-four hours throughout the year. Since the days appointed always fell on the first two days of the week, it was soon discovered that either absences or holidays interfered with the schedule. Some children were observed for only ten hours. Therefore, only ten hours were used for all the members of the matched pairs. For those pupils who had been observed more than ten times, the observations chosen were closest to the other members of the pairs in regard to time.

In both classrooms of each experiment, supplies and equipment were similar except for those materials unique for the Workshop Way and created by the author of the system.

The research director, Josepha Martinez of Xavier University of Louisiana, met with the teachers of the control classrooms and taught them how to use their new audio-visual materials. She visited their classrooms every week. This extra attention given the control teachers served to create and to sustain an enthusiasm in them which helped to balance the feeling of importance and enthusiasm of all the teachers involved in the program. And contrary to the usual practice of many teachers in leaving audio-visual materials on the shelf in traditional classrooms, our control teacher in the first grade did use all the materials daily with fidelity and joy.

At the end of the school year, the post-tests were administered as follows:

Test	Date Given
California Personality Test, Form BB (Except Sections 2D and 2F)	Class 4 - Workshop Way - April 29, 1970 Class 5 - Control - April 28, 1970
Otis-Lennon Mental Ability Test Elementary I, Form K	Class 4 - Workshop Way - May 7, 1970 Class 5 - Control - May 6, 1970
Stanford Achievement Test Primary II Battery, Form X	Class 4 - Workshop Way - May 20,21 - 1970 Class 5 - Control - May 19,20 - 1970

Throughout this report, the research classrooms for second grade will be called:

Class 4 - Experimental classroom with pupils who had the Workshop Way in the first grade and who are having it again in the second grade.

Class 5 - Control Classroom - with pupils who had the Workshop Way in the the first grade but who are not having it in the second grade

Perhaps we should have included in our research a second grade class with pupils having no Workshop Way at any time. For this reason it seemed to the investigator that it would be well to include a report on the other Workshop Way classroom in the same school. One first grade teacher had asked the principal to keep her class whole in the second grade so that the pupils could have the Workshop Way two years in a row. Note that the pattern in the results is similar that of our research experimental class- number 4.

EQUIPMENT AND SUPPLIES FOR CLASSROOMS INVOLVED IN THE RESEARCH PROGRAM

Text Books of the Orleans Public Schools
Reading Workbooks
Flannel Boards
Ear phones for listening stations
Tape Recorders
Children's Listening Records
Bulletin Board
Language Masters
Wall Pocket Charts
Record Players
Access to Television

WORKSHOP WAY MATERIALS FOR GRADES 1 and 2

A. PHYSICAL FEATURES OF THE CLASSROOM

GRADE ONE and GRADE TWO

1. Low shelving along at least two sides of the classroom.
2. A large color chart.
3. A large number concept chart.
4. Reading Posters containing pre-primer one words. (1st six weeks)
5. Workshop Way Schedule posted.
6. Signs to tell pupils how the materials in the classroom are organized.

B. WORKSHOP WAY MATERIALS

FIRST GRADE

September: For the teacher

1. Workshop Schedule task signs.
2. Plastic bags for assignments that change daily.
3. Sign numerals on cards for easy adjustment of tasks.
4. Desk bell to get the attention of the pupils.
5. Homework Lessons 1 to 22 filed in Homework Box.
6. Homework Record Table Chart.
7. Instant Personality-Phonics Activities (plans and materials for lessons)
8. Yes-No charts on stories in second pre-primer.

In the pupils' desks

1. Large name cards printed to guide pupils in tracing their names by using green and red colors.
2. Individual boxes of ABC's.
3. Individual desk charts for word building.
4. Workshop Way thinking worksheets.
5. Puzzle Progress Card for each child.
6. Stiff cardboard name cards for keeping record of "Thinkers" completed without help.

On the shelves

1. Four very simple puzzles with not more than 6 pieces.
2. Twenty-six puzzles marked Aa through Zz. (more difficult having from 16 to 25 pieces)

3. Objects or cardboard cut-outs for tracing.
4. Flash cards for every word used in the reading posters.
5. Number Concept Cards for self-study in counting 1-5.
6. Number Cards for self-study on the quick recognition of how many things in a group.
7. Thinkers - Readiness: Games 1, 2, 3, and 4.
   Phonics: Games 101, 103, 104, 105, and 106.
   Arithmetic: Games: 204, 206, 213, 222, 225, 226, 229, 230, 231, 238.

October: Teacher
Homework lessons 23-30

Pupils
Workshop Way special spelling pads

Shelves:
1. Number Concept Cards (6-10)
2. Thinkers - Readiness: Games 7 through 11 and 20, 25.
   Phonics: Games 102, 110 through 121, 123.
   Arithmetic: Games 200, 201, 202, 205, 208, 214, 215, 221, 227, 228, 232, 244, 245.

November: Teacher
1. Homework lessons 31-40.
2. Pre-primer III Yes-No Chart Lessons
3. Recording for physical education
   HONOR YOUR PARTNER
   FITNESS FUN FOR EVERYONE
   ALBUM #24

Shelves
1. Partner Game - I See, I Have.
2. Partner Game - Do You Have?
3. Thinkers - Readiness: 12 through 28.
   Phonics: 122
   Arithmetic: 203, 211, 212, 220, 240, and 247.

December: Teacher
1. Homework Lessons 41-69.
2. Primer Yes-No Chart Lessons

Shelves
1. Thinkers - Readiness: 29 through 42.
   Phonics: 130, 131.
   Arithmetic: 257.

January: Teacher
1. Homework Lessons 70 to 100.
2. First Reader Yes-No Chart Lessons.

Shelves
1. Phonics programmed cards for self-study.
2. Math programmed cards for self-study.
3. Thinkers - Readiness: 43
   Phonics: 124
   Arithmetic: 207, 209, 210, 216, 217, 218, 223, 235, 236, 254, 255.

February through May

Teacher may create other materials when she thinks there is a need for more.

Shelves
1. Thinkers - Readiness: 43, 44
   Phonics: Basic set has been introduced.
   Arithmetic: 219, 224, 234, 237, 239, 242, 246, 249, 250, 256, 258.

SECOND GRADE

September:

Teacher
1. Workshop Task signs.
2. Plastic bags for assignments that change daily.
3. Numerals on cards for easy adjustment of schedule.
4. Desk bell.
5. Homework Lessons 1-20 filed in Homework Box.
6. Homework Record Table Chart
7. Instant Personality-Phonics Activities (plans and materials)
8. Yes-No Picture Cards.

Pupils
1. Composition Book (large and sewed)
2. Alphabet Letters for building words.
3. Individual Desk Charts for word or sentence building.
4. Stiff cardboard name cards for recording progress in "Thinkers."
5. Name Cards (two space letters to be used as a model)
6. Workshop Way Thinking worksheets
7. Workshop Way special spelling pads
8. Puzzle Progress Cards

Shelves
1. Twenty-six jig-saw puzzles (29¢ or 39¢ size) lettered a-z.
2. Math wheels for addition and subtraction self-study.
3. Objects or cardboard cut-outs for tracing.
4. Illustrated vocabulary flash cards for self-study.
5. Thinkers - General: 7, 9, 10, 18, 20, 21, 23, 25, 27, 28, 29, 31, 32, 34, 36, 37, 39, 40, 41, 43.
   Phonics: 102, 103 through 116.
   Arithmetic: 203, 204, 205, 206, 207, 212 through 220.

6. Number Concept cards for quick recognition of how many things in a set - 1 to 10.
7. Yes-No Picture Cards, programmed.
8. Partner Games: May I have a _____?
   Sentence Pictures
9. Six vocabulary boxes - Grade Two.
10. Counters and picture sets to be used in number research.
11. Opposites
12. Box of pictures collected by teacher and pupils to be used in creative stories.
13. Number pack for task: "Is Greater Than."
14. Command Cards for individuals or partners.

October: Teacher

1. Homework Lessons - 21-40.
2. Reading cards for each story in the basic readers with answers.
3. Recording for physical exercises
   HONOR YOUR PARTNER ALBUM #24
   FITNESS FUN FOR EVERYONE Sides 3 and 4

Shelves

1. Two sets of different basic readers - each containing the pre-primers, primers and first readers ... for self-study.
2. Thinkers - General: 45 through 50.
   Phonics: 119 through 131.
   Arithmetic: 223, 224, 226, 227, 230, 231, 232, 233, 262, 263, 264, 265.

November: Teacher

1. Homework Lessons 41 to 60.

Shelves

1. Thinkers - General: 51, 52, 53.
   Phonics: 132 through 137.
   Arithmetic: 235 through 241, 244, 266, 267, 268, 269.

December: Teacher

1. Homework Lessons 61-75.

Shelves

1. Thinkers - General: 54, 55, 56.
   Phonics: 138 through 143.
   Arithmetic: 247 through 252, 270, 271, 272.

January: Teacher

1. Homework Lessons 61 to 80 .... continued.

Shelves

1. Thinkers - General: 57 through 59.
   Phonics: 144 through 149.
   Arithmetic: 253 through 257, 273, 274, 275.

February: Teacher
1. Homework Lessons 81 to 100.

Shelves
1. Thinkers - General: 60, 61, 62.
Phonics: 150, 151, 152.
Arithmetic: 258 through 261, 276, 277, 278.

March: Thinkers - Arithmetic: 279, 280, 281, 282.

DAILY SCHEDULING OF TIME IN THE WORKSHOP WAY CLASSROOM IN THE RESEARCH PROGRAM

First and Second Grades

Reading: Group I(more able readers) 30 minutes in a formal class

Group II(average)
25 minutes in morning
20 minutes in afternoon

Group III(slower learners)
25 minutes in morning
20 minutes in afternoon

Much informal reading happens in: workshop tasks
free activities

Rationale: Since children in the United States must attend school for at least ten years, it is imperative that students in the primary grades get a foundation in the language arts to prevent them from eight to ten years of failure, humiliation, suffering, and punishment in our classrooms. For this reason READING IS TO THE DEVELOPMENT OF THE PERSON AS BREATHING IS TO THE LIFE OF THE BODY.

Every child has a right to learn how to read and to study in order to have the power to achieve in school.

Phonics: 30 minutes

Arithmetic: 30 minutes

(Writing: 15 minutes first two months)
Music or Teacher's choice (remaining 7 months)

Physical Education: 15 minutes

Remainder of time is given to individualization.

English and Spelling are built into the system.

Science and Social Studies have no formal periods fixed in the schedule during the first year or two depending upon how much time is needed to give each child in the room his right to learn how to read, how to speak and how to write. These subjects can be given on tape and in other workshop tasks including the "Thinkers."

Art is taken in the workshop tasks but it can also be taught whenever the teacher wishes. That is, the teacher knows when time can be given to this subject without depriving the pupils of basic learning necessary to their survival in the system. Television, film strips, and the record player supply many experiences in literature and music.

There is a period every day in the workshop schedule when teachers may teach what they choose to teach. Teachers' talents vary. Childrens' needs vary. Opportunities to capitalize on known talents and to satisfy known needs must be given to teachers and pupils. It is not necessary for human beings to know everything to become a developed human being. But it is necessary to have human faculties developed to become a full human being.

The following pages show how the director of research was going to proceed with the observations of matched pairs, and how she intended to record the results of the observations. However, after the consultation with Dr. Victor Thiessen the procedure was changed. Dr. Victor Thiessen is a statistician and professor of sociology at Case Western Reserve University. He was consultant to the author and he directed the programs for the analysis of the test data. Dr. Thiessen recommended that only the number of times that behavior could be seen or heard objectively should be recorded during the observations. The computer would take over the rest of the work. Dr. Thiessen's guidance was respected and his plan followed.

THE ORGANIZATION OF SYSTEMATIC OBSERVATION OF CHILDREN IN THE WORKSHOP WAY EXPERIMENT (as given in original proposal)

1. Participants:

Selection of: From the results obtained from the tests given to children in the Workshop Way experiment, five children will be selected in each of the three first grade classrooms and five children will be selected from each of the second grade classrooms. These children will be those whose scores matched very closely in the tests given as a part of this experiment. The tests to be used are as follows:

1. Metropolitan Reading Readiness Test
2. Pintner-Cunningham Primary Test, Forms A and B
3. California Personality Test, Forms AA and BB (with section 2D omitted)
4. Metropolitan Achievements Tests Grade One Primary I Battery - Form A
5. Stanford Achievements Test - Primary I-Form X
   Grade Two - Primary II-Form X

2. Observation:

A. Time: Each week the five children in each of the first grade classrooms and the second grade classrooms will be observed for an hour. Two first grade classrooms will be observed on Monday - one in the morning and one in the afternoon. The particular hour spent in the classroom

will alternate weekly. For example, the classroom in which observation was conducted for an hour on Monday morning, will be observed on Monday afternoon of the following week. The pupils in the third first grade classroom and the two second grade classrooms will be observed on Tuesday. The particular time of the day spent in the classroom will alternate weekly.

B. Manner: During the observation hour, as much of the behavior of the children as possible will be recorded on the observation form.

C. Interpretation -

1. Recording: The behavior of the child will be classified according to a modified Dewey decimal system using the various sections of the taxonomy devised for personal adjustment and the various sections of the taxonomy devised for the social adjustment. Next to the data gathered on the observation form, letters and numbers will be placed. The letters tell the section of the taxonomy under which this information is to be classified. The number before the decimal point indicates the item under that section under which the data is to be classified. The numbers after the decimal point tell which item this is in the series of items classified under that section. This taxonomy is found in Appendix B.

Example: A 1.01
Susan's pencil point broke. She went to the pencil sharpener and sharpened it.
A refers to Section A of the taxonomy entitled Self-Reliance
1 refers to item one listed under this section which reads as follow:
"Takes care of needs independently."
.01 refers to the fact that this is the first time behavior of Susan was classified under that item. If this were the third time such behavior occurred, the code would read: A 1.03.

2. Scoring: The period for observing the child's behavior in the manner described in the preceding paragraphs will be six months. At the end of one month and again at the end of the six months, the behavior of each child, classified under each of the items, will be judged

according to the following scale: frequently, sometimes, occasionally, never. This judgment will be based upon the number of times behavior was classified under each item. A definite number will be assigned to each of the four categories of the scale and used for each child. For example, the number of times for a child's behavior to be judged as falling in one of the four categories could be the following:

Frequently: 10 times or more
Sometimes: 5 to 9 times
Occasionally: 1 to 5 times
Never: 0 Times

The actual number will be computed from the highest number of times this behavior occured during the respective periods.

POINTS WILL THEN BE GIVEN FOR EACH OF THE CATEGORIES DESCRIBED ABOVE:

Frequently	3
Sometimes	2
Occasionally	1
Never	0

For negative behavior, points will be as follows:

Frequently	0
Sometimes	1
Occasionally	2
Never	3

The particular points given to each item is given on the form found in Appendix B.

3. Evaluation: The behavior of each child will be represented by a number of points given in a manner described in the preceding paragraphs. The behavior will then be compared and evaluated in the light of the number of points received for each section of the taxonomy as well as in the light of the total number of points received on the whole taxonomy.

PROBLEMS

I. Technically speaking if there is to be a Workshop Way classroom, there must be a Workshop Way teacher directing the children, the workshop activities, and the unique Workshop Way teaching techniques in their sequence and in the use of the time factor. When choice of the teacher rests with persons outside of the system, the investigator is forced to risk. In this particular study the chosen teachers were supposed to attend ten teaching sessions to learn how to use the Workshop Way. One of the teachers only attended two sessions. It was impossible to arrange times to make up the instructions since the teacher's involvement in community affairs was heavy.

Solution: The decision was made to give the teacher instructions from a book by the author - Reading the Workshop Way. The teacher read the book and began to experience a change of attitudes favorable to the system.

II. The core of the effectiveness of the Workshop Way system of education is in its organization of curriculum and time. Therefore, a teacher has to know and to understand this organization.

The following weaknesses were manifested in the experimental classroom where the teacher and the Workshop Way instructor were not able to meet because of unforeseen circumstances on the part of the teacher:

1. Lack of dailyness in hearing and giving out homework lessons in accordance with the psychology prescribed.

2. Lack of realizing the critical importance of having all five steps of the phonics plan taught every day as these were prescribed in the plans.

   Note: In the Workshop Way it isn't <u>just</u> having homework every day or <u>just</u> having a phonics lesson every day that counts. In both components, homework and phonics, the power of effectiveness lies within the techniques used in hearing and assigning lessons and in the amount of time used for this step or that step in both activities.

3. Using Workshop Way materials in a traditional way will not work in the Workshop Way. Herein the slower learners are especially hindered from producing to their potential in learning as well as in personality development since there is a strong relationship between the degree to which children learn and their personal growth. Effective learning depends on what is taught first, second, third and so on as well as on how long or how short a time each step is taken.

4. Not using all of the Workshop Way materials at the time they were supposed to be used. For example, throughout the year phonics pictures are planned to be changed frequently - at least every week in the use of the 13 Game. This was not in evidence. "Thinkers" were to be explained and used during the months they were delivered. This was not in evidence.

   Solution: This class was named Partial Workshop Way.

III. The Workshop Way teacher was the chairman of the school pageant in April. This brought confusion into the classroom for three weeks during the month of April, the best time of the year to give children the feeling of success.

During this period the Workshop Way schedule was broken and children had to be taken care of by adults other than the teacher since the business connected with a school pageant is considerable.

Solution: None possible, academically. Investigator has to accept test results on achievement. However, pupils could experience personal, social, and mental growth in that the physical environment was conditioned by means of the workshop schedule. The social environment was conditioned by the five freedoms although at times the freedoms were prohibited.

IV. The research design called for the same type of children in the research classrooms. All pupils without prior school experience were to be given the Metropolitan Readiness Test and the lowest scorers were to be selected for each room. But for the first time in the schools chosen there were not enough first graders without prior school experience to even fill a classroom. Therefore, scientific class selection was impossible. Hence, any educable ability by potential was included in each classroom.

Solution: The director called for the computer to match pairs using the data taken from the tests in order to compare the rate of growth between the same levels of ability or a sameness in other variables coded on the punched cards.5

V. After the Workshop Way was started in the research classrooms, the pupils who lived in zones near schools predominantly white had to transfer to these schools. The Workshop Way classroom #4 suffered a loss of four pupils all of whom were in the best learning group. Hence, scores that in all probability would have been more dramatic and significant were lost to this study. This also accounted for the low "class enrollment" at the end of the school year.

Solution: Out of control of investigator.

VI. The research director planned to observe pupils in the matched pair groups once a week. She chose Monday and Tuesday of each week for this work. Because of absences or holidays occurring on these days some of the pupils were only observed ten times.

Solution: Hence, only ten observations were used in the final results. The observations of those pupils who were observed more than ten times were chosen to match the times nearest those made on ten occasions only.

VII. Because of the loss of teaching time in the first grade class #2 through unforeseen circumstances, slower learners could not have a sufficient number of formal teaching periods for effective learning to happen.

Solution: None - academically.

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[5]Dr. Thiessen, the statistician who directed the computer analysis, did not match pairs because the sample would be too small. Therefore, he chose to run the tests on group performance only. However, the test run on the difference of the differences solved the problem.

CHAPTER FIVE

Data Analysis

Findings and Results from Computer Analysis of the Study of Mental Growth of Students in Workshop Way and of students in the Non-workshop in Primary Grades:

To evaluate a program it is necessary to follow a basic logical procedure. What are the basic considerations that have to go into a program to make it scientifically sound? First, we have to find a control and an experimental group. This can be done by randomization or by matched pairs, one of each pair going to one of the groups. The research design in this study called for randomization. However, for the first time the schools selected did not have enough new first graders without prior school experience to fill even one classroom. The schools had been selected because former first grade enrollments allowed us to believe that randomization would be possible. Since there were not enough pupils to fill classrooms in the three schools, it was decided to take all such pupils and to add six first grade repeaters in order to maintain adverse classroom conditions.

Secondly, it is assumed that the groups are alike. However, that is not in itself sufficient. It is necessary to test whether or not the research groups are alike in as many variables as possible. The initial position, on any factor, is the best predictor of what the position will be later on. For example, if you find that your experimental group differed in the very beginning, in a number of characteristics, and then that the experimental treatment had some effect, it may not have been caused by the experimental treatment. The success may have been due to the fact that you had a different group in the experimental room from the group you had in the control room since they differed systematically in some ways initially. So our first test on the computer was run to find the original differences of means in the following variables. Z scores were found to enable a prediction of significance.

See Table One for the Original differences of means in the variables tested for:

Workshop Way versus Non-workshop Grade Two (Class 4 vs Class 5)
Workshop Way versus Non-workshop Grade One (Class 1 vs Class 3)
Partial Workshop Way versus Non-workshop Grade One (Class 2 vs Class 3)

Code: Ethnic Group	School Experience	Econ. Status
1. Afro-Am.	1. None	1. Either parent has a profession.
2. Sp.-Am.	2. Completed first grade	2. Either parent is semi-skilled.
3. White-not Sp.-Am.	3. Second year in first grade	3. Parents are unskilled laborers - one or both if not in above categories.

No. Parents	Attendance:
1 = Both	1. Present 95% - 100%
2 = Mother only	2. Present 90% - 94%
3 = Father only	3. Present 85% - 89%
4 = Guardian	

TABLE ONE

Test: Difference of Means

Variables *=See code on Page 50.	Grade Two Class 4 Mean Workshop Way	Grade Two Class 5 Mean Non-workshop	Z Scores	Grade One Class 1 Mean Workshop Way	Grade One Class 3 Mean Non-workshop	Z Scores	Grade One Class 2 Mean Partial Workshop	Grade One Class 3 Mean Non-workshop	Z Scores
1. Sex	1.56	1.52	.309	1.58	1.56	.189	1.41	1.55	-1.052
2. Age in months	88.92	89.14	-.098	76.74	77.18	-.281	78.24	77.18	.665
3. Ethnic Group *	1.00	1.00	.000	2.32	1.00	8.849	1.00	1.00	.000
4. Attendance *	2.12	1.48	-2.126	1.74	3.15	+2.668	2.52	3.15	1.086
5. Mental Age 12/1969	76.04	73.17	1.08						
Mental Age 10/69				65.13	64.56	.26	58.00	64.56	-3.07
6. IQ as of 12/1969	83.40	81.03	.82						
IQ as of 10/1969				84.43	81.04	.26	74.65	81.04	-1.757
7. Economic Status *	3.00	3.07	-.291	2.93	3.08	.581	2.83	3.08	+1.211
8. No. of Parents *	1.60	1.45	.688	1.48	1.76	1.416	1.34	1.77	2.560
9. School Experiences*	2.12	2.10	.188	1.32	1.44	-.577	1.34	1.44	-.460
10. Type of House *	2.00	2.00	.000	1.74	1.96	-2.510	1.34	1.96	-1.963
1=Project	2=Non-project								
PINTNER-CUNNINGHAM PRIMARY TEST - Form A									
1. Common Observations				12.00	11.18	.900	9.76	11.18	-1.446
2. Esthetic Differences				5.23	4.63	1.936	4.55	4.63	-.230
3. Associated Objects				3.52	3.22	.569	2.69	3.22	-1.070
4. Discrimination of Tasks				2.58	2.14	1.083	2.35	2.15	1.046
5. Picture Parts				14.84	17.67	-1.586	10.72	17.67	-4.322
6. Picture Completion				3.32	3.04	.577	1.83	3.04	-2.838
7. Dot Drawing				2.45	1.92	1.141	1.10	1.93	-2.031
PC Total				43.968	43.81	.046	34.76	43.81	-2.447
Otis-Lennon General Ability - Elementary I - Form J									
Part I	6.52	5.76	.993						
Part II	6.48	5.24	1.317						
Part III	12.52	11.93	.682						
Total	25.52	22.93	1.380						

DISCUSSION

Table One shows that there is very little difference between variables in the Workshop Way Second Grade and the Control Second Grade. It shows very little difference between Workshop Way First Grade group and the Control group. There is a difference between the Partial Workshop Way and the Control group, but the difference is in favor of the control group. Let us look at

Table One - Grade Two:

Attendance shows a significant difference. On the code sheet for the computer we gave each percentage grouping a number as shown on the preceding page. The control group record is significantly greater than that of the Workshop Way class in Grade Two. This can be accounted for by two events. (1) Three Workshop Way pupils were out of school for a long period because of communicable diseases in the case of two pupils and of dental problems for one child. (2) The enrollment decreased by eight members; whereas the control group decreased by five pupils.

There is no significant difference between the two groups in: sex, age in months, mental age as of Dec., 1969, IQ as of Dec., 1969, economic status, number of parents, prior school experience and in the sub-tests or total scores of the Otis-Lennon Test of Mental Ability. Two variables are exactly alike - ethnic group and type of house.

Table One - Class 1 versus Class 3

Ethnic Group - An integrated classroom (Class 1) was added to the original research design since the latter only included classes in which the pupils were all black. The author concedes that the prior initial difference between Class 1 and Class 3 could be questioned by scientists since the experimental treatment worked successfully in the Workshop Way class. Future research will have to find out if the cause of the success was due to the racial white factor or to the experimental program. However, in this same study the experimental treatment did bring about faster growth in learning with statistical significance for a group racially the same as the control group - all black. Also, it should be mentioned that one of the two top pupils to gain over thirty points in IQ in Class 1 during the seven months was Afro-American. The three pupils who regressed a few points in IQ and the only pupils to do so were white. These facts are given since one tends to think of the white pupils as being superior at the present time in our schools. Our results lead us to believe that this way of thinking need not be so if a way is found that awakens mental growth in our very young black pupils.

Attendance

Attendance in the Workshop Way group is significantly greater than that of the control group. This may or may not have been due to the experimental treatment. However, the attention of the author has been frequently called by Workshop Way teachers to an increase of attendance in their classrooms, frequently having one hundred percent attendance - with all black pupils.

Type of House

It is difficult to say which group is favored by the results. Future research may determine if housing effects learning growth. The groups are very much the same in all other variables. Mental age, age in months, and IQ are very much the same in the beginning of the project.

In esthetic differences of the Pintner-Cunningham Primary Test, Class 1 is almost significantly different from Class 3. (1.94) A Z Score of 1.96 is required for statistical significance. Most factors tested show very little difference in the two groups. In this particular chapter it is important to notice that the groups began alike in chronological age, mental age, economic status and almost alike in IQ scores.

Table One - Class 2 versus Class 3

The variables mental age and type of house are significantly different and they favor the control group. The number of parents favors the workshop group. The type of house may or may not favor any group. IQ scores initially favored the control group. In this experiment the groups were somewhat the same in sex, age in months, ethnic group (exactly alike), economic status, and prior school experience.

OTHER REMARKS

In three sub-tests of the pre-test in mental ability and in the total score, the control group is significantly different from the experimental group making the objectives for the experimental group more difficult to be reached.

	Z Scores
Picture Parts	(-4.32)
Picture Completion	(-2.84)
Dot Drawing	(-2.03)
Total Score	(-2.45)

Only in one part of the test was the Workshop Way class favored - Discrimination of Tasks.

Now let us look at the difference of gains in the three experimental groups.

In Grade Two there is evidence that the Workshop Way experimental group progressed at a greater rate than did the control group in all items but one and the two groups were very close in this item.

In Grade One(Class 1 vs Class 3) let us look at the amount of actual improvement or lack of improvement for both the Workshop Way group and the Non-workshop group. We see that in seven items the Workshop Way students moved ahead faster than the control students. Only in one item, #4, did the control greatly excel the Workshop Way. In the other two items each class was about the same.

In Grade One (Class 2 vs Class 3) again we see that the workshop class did very much better than the control group in Mental Age, Picture Parts, and in the Total Score. They did better in I.Q., Common Observation, Associated Objects, Picture Completion, and Dot Drawing. They did as well as the control group in Discrimination of Size and the control group did much better than the Partial Workshop Way in Esthetic Difference.

TABLE TWO

Test: Difference of MEans
Gains

Sub-tests and Totals	Grade Two Class 4 Mean Workshop Way	Grade Two Class 5 Mean Non-workshop	Grade One Class 1 Mean Workshop Way	Grade One Class 3 Mean Non-workshop	Grade One Class 2 Mean Workshop Way	Grade One Class 3 Mean Non-workshop
1. Mental Age			18.8	7.2	11.9	7.1
2. I.Q.			15.4	4.1	6.9	4.1
3. Common Observations (1)			2.0	1.4	4.0	1.4
4. Esthetic Differences (2)			.4	1.1	.90	1.1
5. Associated Objects (3)			1.5	1.9	2.4	1.9
6. Discrimination of Tasks (4)			.2	.03	- .4	.04
7. Picture Parts (5)			8.2	1.9	8.3	1.9
8. Picture Completion (6)			5.2	3.8	5.0	3.8
9. Dot Drawing (7)			2.0	1.3	2.1	1.3
PC Total			18.8	11.4	17.4	11.4
Otis-Lennon General Ability Test-Form J						
Mental Age	10.0	5.5				
I.Q.	5.0	1.9				
Part I	1.6	1.8				
Part II	1.9	1.5				
Part III	2.8	.9				
Total	6.3	4.2				

Now a third test was programmed on the computer to find the correlation of the differences of the differences of the means to ascertain if final results did show that our objectives were realized. Z scores will tell us if the gains are significant or not. 1.96 is necessary for statistical significance at the five percent level of confidence.

TABLE THREE

Test: Difference of the Differences in the Means for Gains in Mental Growth *

	Grade Two Class 4	Class 5		Grade One Class 1	Class 3		Grade One Class 2	Class 3	
Variables	Mean Workshop Way	Mean Non-workshop	Z Scores	Mean Workshop Way	Mean Non-workshop	Z Scores	Mean Partisl workshop	Mean Non-workshop	Z Scores
Mental Age				18.8	7.2	4.66*	11.90	7.18	2.23*
I.Q.				15.9	4.1	3.54*	6.90	4.07	.55
Common Observations (1)				2.0	1.4	.66	3.97	1.44	1.34
Esthetic Differences (2)				.5	1.1	-2.07*	.90	1.07	-.58
Associated Objects (3)				1.5	1.9	-.92	2.45	1.93	1.25
Discrimination of Tasks (4)				.2	- .03	.55	- .45	- .04	-.84
Picture Parts (5)				8.3	1.2	3.68*	8.31	1.89	3.60*
Picture Completion (6)				5.2	3.8	1.37	5.00	3.78	.70
Dot Drawing (7)				2.0	1.3	1.74	2.14	1.33	2.14*
PC Total				18.8	11.4	2.99*	17.38	11.41	2.26*
* = Significant Growth									
Mental Age	10.0	5.5	2.17*						
I.Q.	5.0	1.9	1.55						
Otis -Lennon Mental Ability Test									
Part I	1.6	1.8	-.22						
Part II	1.9	1.5	.49						
Part III	2.8	.09	1.66						
Total	6.3	4.2	1.55						

* A Z score of 1.96 is sufficient for significance at the five percent level of confidence. A Z score of 2.56 is significant at the one percent level of confidence.

In Grade Two, the Workshop Way class excelled the control class in all sub-tests of the Otis-Lennon Mental Ability Test. There is significant change in growth in mental age of the Workshop Way pupils at the five percent level of confidence - the Z score being 2.17.

In Grade One Class 1 versus Class 3 - we find the Workshop Way pupils developing in mental growth at a faster rate than pupils in the non-workshop class. The significance is very high now - past the one percent level of confidence in four items. However, in the sub-test, Esthetic Differences, the control group developed faster significantly at the five percent level of confidence. The groups were about the same in three items: Common Observations, Associated Objects, and Discrimination of Tasks. The Workshop Way pupils excelled in Picture Completion and Dot Drawing but not significantly.

In Grade One, Class 2 versus Class 3, the Workshop Way pupils developed faster in one subtest, Picture Parts, past the one percent level of confidence. (Z score, 3.60) The students excelled in three other items past the five percent level of confidence: Mental Age, Dot Drawing, and in the Total test results. The groups were about the same in: I.Q., Esthetic Differences, Discrimination of Tasks and in Picture Completion.

Findings and Results of Academic Growth of Students in Workshop Way Classrooms and of Students in Non-workshop Classrooms in Grade One.

Findings and Results of Academic Growth of Students in Workshop Way Classrooms and of Students in Non-workshop Classrooms of Grade Two where both second grade pupils had been taught the Workshop Way to some degree in the first grade. "To some degree" means that all the first grade Workshop Way teachers were in the process of learning how to use this system.

Three tables will be discussed in this chapter. The information in the tables was derived from computer analysis of data collected from the pre and post tests used in our research design. To measure academic growth in Grade One the following tests were used:

Pre: Metropolitan Readiness Test - Form A
Post: Metropolitan Achievement Test Primary I Battery - Form A

To measure academic growth in Grade Two the ollowing tests were used:

Pre: Stanford Achievement Test Primary I Battery - Form X
Post: Stanford Achievement Test Primary II Battery - Form X.

The first computer run tells whether or not the control groups and experimental groups were different when the experiment started. Z scores were found in order to reveal how significantly alike or different were the groups in their prior scores. See Table four.

See Appendix F for the Code Sheet used in the program.

TABLE FOUR

Test: Means Background and Prior Scores for Academic Study Taken from Pre-Test Results

Difference of Means Test

Grade One - Metropolitan Readiness Test - Form A
Grade Two - Stanford Achievement Test
Primary I Battery - Form X

	Grade Two Class 4	Grade Two Class 5		Grade One Class 1	Grade One Class 3		Grade One Class 2	Grade One Class 3	
Variables	Mean Workshop Way	Mean Non-workshop	Z Score	Mean Workshop Way	Mean Non-workshop	Z Score	Mean Partial Workshop	Mean Non-workshop	Z Score
Metropolitan Readiness Total				37.5	38.0	-1.24	35.7	38.0	-.552
Stanford Achievement Battery Primary I-Forx X									
Word Meaning	15.04	15.72	-.403						
Paragraph Meaning	13.76	12.24	.643						
Vocabulary	13.32	13.65	-.392						
Spelling	7.84	8.90	-.700						
Word Study Skills	26.04	28.65	-1.38						
Arith. Concepts skills	19.36	21.55	-.884						
Total	94.50	100.724	-.823						

The chart shows that all groups began the school year very much alike in readiness for learning. It does show that the Workshop Way classes were a little below the level of the control classes but not significantly different at the beginning of the research. Minus Z scores favor the control classes.

A program was run to find the Difference of Gains between the groups.

TABLE FIVE

	Grade Two		Grade One		Grade One	
	Class 4	Class 5	Class 1	Class 3	Class 2	Class 3
Sub-Tests and Totals	Mean Workshop Way	Mean Non-workshop	Mean Workshop Way	Mean Non-workshop	Mean Partial Workshop	Mean Non-workshop
Metropolitan Readiness Test Form A (Pre) Metropolitan Achievement Test Primary I Battery Form A (Post)			63.06	46.0	48.65	46.0
Stanford Achievement Test Primary I Battery - Form X (Pre) Stanford Achievement Test Primary II Battery - Form X (Post)						
Word Meaning	33.04	21.13				
Paragraph Meaning	23.32	27.62				
Spelling	40.88	23.96				
Word Study Skills	19.96	20.10				
Arith. Computation	23.24	7.86				
Arith. Concepts	26.16	8.76				
SAT Total	242.15	200.03				

According to TABLE FIVE, the students in the Workshop Way class gained many more points in academic growth than did the Non-workshop class from the time they took the Readiness Test until the time when they took the Achievement Test.

The Partial Workshop Way class gained more points in academic growth than the Non-workshop class but only slightly. This is a logical outcome since the teacher of the Partial Workshop Way class did not actually understand that a Workshop Way teacher is freed by the workshop schedule to teach her pupils all day in whatever way they can learn best. As was stated previously, outside activities took this teacher out of her classroom frequently. The pupils were protected from failure because they could go ahead on their own by following the workshop schedule independently of the teacher and with the help of each other.

One objective of this research was to discover if there would be a difference in academic growth between two second grade groups in those subject areas not formally taught in the Workshop Way system if the experimental group continued to be taught the Workshop Way and the control group would be taught in the traditional manner. See Table Six.

* There was no language pre-test. Therefore in Table Six the language figures show only the difference in means.

TABLE SIX

Grade Two Stanford Achievement Test - Primary II Battery - Form X - May, 1970
Difference of Differences Test

Sub-Tests	Mean Workshop Way	Mean Non-workshop	Z Scores
* Language	40.20	43.58	-.40
Science and Social Studies	26.88	29.93	-.36
Arithmetic Computation	42.60	29.41	1.99
Arithmetic Concepts	26.16	8.76	1.98
Spelling	40.88	23.97	2.00

According to TABLE SIX, there is no significant difference in the gains in Language or in Science and Social Studies between the second grade research groups. In fact, the slight difference is in favor of the control group. However, two events must be noted in viewing the table. (1) Six pupils in the best learning group of the experimental class were transferred to other schools. (2) the author concedes that something has been lost in this study because of the error made in the research design which did not include a second grade non-workshop class which did not have the Workshop Way in the first grade. When pupils learn how to think and how to read in the first grade, greater growth can be expected in subject matter areas in the second grade regardless of the system of education used in the second grade.

Both the second grade control and experimental classes began the school year with enrollments of 34 pupils. The pupils were selected according to the results of their first grade Metropolitan Achievement Test of May, 1969. Each class was composed of 17 of the highest scorers plus 17 of the lowest scorers. Because students of different mental abilities withdrew during the year, the classes were not exactly alike in May. The control class lost two "more able" students while the experimental class lost six "more able" students. The control class lost three slower learners while the experimental class lost two slower learners. The author believes this makes a difference for two reasons:

1. The experimental group had four less good students in May whose scores could not be included in the final report.
2. The control group had one less slower learner whose results were not included in the final report.

Percentiles of the students who withdrew during the year follow as these were found from the sub-tests of the Metropolitan Achievement Test in language arts - the test used as a basis of selection of pupils.

Control Class (five pupils left)	Experimental Class (eight pupils left)
1. 93%	1. 82%
2. 60%	2. 77%
3. 20%	3. 74%
4. 14%	4. 61%
5. 13%	5. 58%
	6. 52%
	7. 13%
	8. 13%

In Arithmetic Concepts the difference of gains in the Workshop Way, having a Z score of 1.98, is significantly greater than that in the control group. The difference of growth in the area of this subject matter may be accounted for by the Workshop Way policy of concentrating on language arts and only on the meaning of numbers and the development of thinking in general in math in the first grades. If further research yields consistent results in this area, the project will have great value in enlightening personnel interested in curriculum development in the area of math. In Arithmetic Computation the experimental group Z score was 1.99 which is also significant.

Now let us look at TABLE SEVEN which shows the Z scores for the difference of differences between the groups in the research project.

In Spelling, the experimental group shows a greater progress to a significant degree with a Z score of 2.00.

TABLE SEVEN

Difference of Differences

	Grade Two			Grade One			Grade One		
	Class 4	Class 5		Class 1	Class 3		Class 2	Class 3	
Sub-Tests and Totals	Mean Workshop Way	Mean Non-workshop	Z Score	Mean Workshop Way	Mean Non-workshop	Z Score	Mean Partial Workshop	Mean Non-workshop	Z Score
Metropolitan Readiness Test Total Score (Repeating differences of gains from pre-test.)				37,5	38.0	-.124	35.7	38.0	-.552
Metropolitan Achievement Test Primary I Battery Form A Total Score				63.06	46.00	2.498	48.65	46.00	.356
Stanford Achievement Test Primary I-II Batteries									
Word MEaning	33.04	21.14	1.40						
Paragraph Meaning	23.32	27.621	-.525						
Spelling	40.88	23.97	2.00						
Word Study Skills	19.96	20.10	-.020						
Arith. Computation	23.24	7.862	1.99						
Arith. Concepts	26.16	8.76	1.98						
SAT Total	242.15	200.03	1.34						

In TABLE SEVEN, the difference of differences test for the Workshop Way versus the Non-workshop system of education shows that Grade One Workshop Way class progressed faster in rate of academic growth to a highly significant degree with a Z Score of 2.498. Grade One Partial Workshop Way class does not show much difference in rate of growth from that of the Non-workshop class. The Z Score favors the experimental group but only in a very small degree. This was to be expected because the reason for labeling this experimental group "partial" was that the investigator risked having the teacher chosen by an outside agent and the risk was not favorable throughout the year. The teacher did not follow the Workshop Way timing in her teaching schedule as this was prescribed for the Workshop Way system. The pupils were prevented from failure because of the fact that the workshop schedule was established and the pupils worked independently of the teacher for the year with the exception of three weeks during which time their teacher was distracted by being the chairman of the school pageant.

In the second grade results - spelling, arithmetic computation, and arithmetic concepts yielded a rate of growth to a significant degree, the Z Scores in order were: 2.00, 1.99, and 1.98. Word meaning and the total rate of growth approached significance while paragraph meaning and word study skills rated lower than the growth in the control classroom. Keep in mind that in the experimental classroom, the project was prevented from showing a true rate of growth in that six students in the best learning group were transferred to other schools.

TABLE EIGHT shows individual DIFFERENCE SCORES for the second graders in Workshop Way and Non-workshop classes when all the pupils had Workshop Way in the first grade. Note that growth took place in all but one pupil. This pupil was one of the two children told to stay home until a skin disease was healed. (There were three but one child left before the year was up and is not included in the test results.) Also the Workshop Way class lost six good students as stated above. The research was done in a disadvantaged area where all pupils were black. For the past two years, the fourth grade enrollment showed that one third of the pupils had failed once, one third had failed two years and only a third had "passed" each year. Each year only two pupils in the promoted group were on grade level. Note the small number of slower learners in both groups. It should be interesting to find out whether or not these children stay on, above, or below grade level when they get in the Fourth Grade.

TABLE EIGHT

Difference Scores from Pre-Test to Post-Test

Stanford Achievement Tests - Primary I and II Batteries, Form X

Grade Two

Workshop Way		Non-workshop	
Pupil	Difference of Gain	Pupil	Difference of Gain
1	433	1	430
2	399	2	425
3	392	3	343
4	356	4	341
5	353	5	338
6	339	6	306
7	331	7	299
8	327	8	249
9	315	9	239
10	295	10	234
11	277	11	228
12	268	12	222
13	266	13	204
14	262	14	203
15	259	15	201
16	253	16	194
17	218	17	180
18	192	18	166
19	191	19	159
20	191	20	155
21	184	21	145
22	104	22	138
23	53	23	121
24	28	24	96
25	23	25	54
26	-3	26	44
		27	35
		28	28
		29	24

CHAPTER SIX

Study on the Personal-Social Growth of Students in Workshop Way Classrooms and of Students in Non-workshop Classrooms:

The research design called for pre and post tests using the California Personality Test as it was revised in 1953. Personal and social growth is clearly seen in Workshop Way classrooms. Therefore, it was hoped that a way could be found to measure the variables. The search for an instrument to find such measurements left the author with the California test since it could be used with first and second graders. The research design also called for systematic observations of matched pairs to collect data to compare the pupils of two school systems in personal-social growth.

Dr. Victor Thiessen, Professor of Sociology and statistician at Case-Western Reserve University, rejected the data gathered in the observation periods for these reasons:

1. The sample was too small.
2. The number of hours of observations of each pupil was too small.
3. The white pupils in the experimental classroom would have to be matched with white pupils in a control group and they were not.

Hence, there is no report on the data gathered in the observations. The data is punched on cards and if some future use can be made of it, it would be available.

The author concedes that personal-social growth in children would be difficult to measure validly in one year since the process of growth covers a period of many years. The results of the California Personality Test will be shown in three tables similar to those given in chapters four and five. TABLE NINE shows prior scores found by a computer test, run to find the differences of means in order to see whether or not the experimental and control groups were the same at the beginning of the project. Z scores allow us to interpret the finding.

TABLE NINE

California Personality Test - Form AA September, 1969

Variables	Grade Two Class 4 Mean Workshop Way	Grade Two Class 5 Mean Non-workshop	Z Scores	Grade One Class 1 Mean Workshop Way	Grade One Class 3 Mean Non-workshop	Z Scores	Grade One Class 2 Mean Workshop Way	Grade One Class 3 Mean Non-workshop	Z Scores
Self-Reliance	4.30	4.28	1.46	5.35	4.52	2.21	5.45	4.52	2.33
Sense of Personal Worth	5.76	5.45	.88	5.00	4.67	.80	4.86	4.67	.45
Sense of Personal Freedom	6.16	5.48	1.67	5.19	5.04	.36	5.79	5.04	1.94
Feeling of Belonging	5.32	5.24	.19	5.00	4.78	.69	4.83	4.78	.15
Withdrawing Tendencies	4.16	3.21	2.25	4.23	3.93	.52	4.34	3.93	.66
Nervous Symptoms	4.16	3.65	1.14	4.29	3.89	.68	3.97	3.89	.12
Total Personal Adjustment	30.68	27.31	2.43	29.03	26.81	1.40	29.24	26.81	1.35
Social Standards	4.72	5.55	-2.13	5.61	5.15	1.34	5.28	5.15	.34
Social Skills	4.71	4.93	-.56	5.61	5.58	.09	5.76	5.58	.49
Anti-social Tendencies	4.60	3.72	1.70	4.55	3.93	1.23	4.79	3.93	1.52
School Relations	4.24	4.62	-.73	5.58	4.81	1.80	4.86	4.81	.12
Total Social Adjustment	18.28	18.97	-.53	21.35	19.30	1.98	20.76	19.30	1.31
Total Adjustment	48.96	46.38	1.16	50.39	46.11	1.91	49.65	46.11	1.

In Table Nine, we see that in the second grade experiment there was a significant difference between the groups in their prior scores in personal-social growth in these areas: (A Z score of 1.96 is sufficient for significance.)

Withdrawing Tendencies
The Z score 2.25 shows that the difference favors the Workshop Way.
Total Personality Adjustment
Again the Z score 2.43 favors the experimental group.
Social Standards
The Z score favors the control group.

In all the other variables the Z scores show that neither group is too much below nor too much above the other. The differences that appear were cleared away in the test on the difference of the differences using scores on the pre and post tests.

In the table for Class 1 versus Class 3, it can be seen that the control group and the Workshop Way group in Grade One are more alike at the beginning of the research. There are two variables significantly different: namely,

Self-Reliance(2.21) and Total Social Adjustment(1.98. Total adjustment was very close to significance with a Z score of 1.91. In all other variables the two groups were about the same.

In the table for Class 2 versus Class 3, only one variable shows up being significantly different between the two groups - Self-Reliance(2.33). In Sense of Personal Freedom, the difference is very close to being significant.

The investigator wishes to comment on the experiences of the examiners in administering the California Test of Personality- Form AA. The pupils in all of the first grades did not seem to understand the questions which they were asked individually to answer. It is assumed that there was much guessing and that the picture of the prior scores is not a true one to be used as the picture of the original background of the students especially in the first grades.

In the second grade pre-tests, there was greater evidence of the pupils reflecting before answering yes or no. Just how much the above comments make the test results unreliable is difficult to say or to determine. However, because the computer run in finding the difference of the differences takes the differences into consideration and does something about them, perhaps it can be said we have a valid base to work from. But even the computer can only work according to the information given to it.

In Table Ten, let us look at the gains made by the research groups.

TABLE TEN

Differences of Gains

Variables	Grade Two Class 4 Mean Workshop Way	Grade Two Class 5 Mean Non-workshop	Grade One Class 1 Mean Workshop Way	Grade One Class 3 Mean Non-workshop	Grade One Class 2 Mean Partial Workshop	Grade One Class 3 Mean Non-workshop
Self-Reliance	1.44	1.31	.58	1.30	.59	1.30
Sense of Personal Worth	.68	.69	1.61	2.00	1.55	2.00
+Sense of Personal Freedom	-.68	-.17	.00	.33	.14	.33
Feeling of Belonging	.96	.79	1.19	1.56	1.79	1.56
Withdrawing Tendencies	.48	2.17	1.42	1.56	1.59	1.56
Nervous Symptons	.44	.03	.90	1.56	.86	1.56
Total Personal Adjustment	3.00	4.79	5.74	8.30	6.52	8.30
Social Standards	-.20	-1.00	.32	.33	.17	.33
Social Skills	.25	.62	-.06	.27	-.62	.27
Anti-Social Tendencies	.16	.69	1.71	2.11	1.69	2.11
School Relations	1.52	.72	1.00	1.48	1.76	1.48
Total Social Adjustment	1.36	.90	2.97	4.37	2.93	4.37
Total Adjustment	3.95	5.59	8.71	12.67	9.79	12.67

In all three experiments the Workshop Way classes did not gain as much as the control classes. In fact, there is a constant trend that the groups did not move in the same direction. A look at the total scores shows a wide difference in the gains, and these are all in favor of the control classrooms except for Grade Two, Total Social Adjustment.

	Grade Two		Grade One		Grade One	
	Class 4	Class 5	Class 1	Class 3	Class 2	Class 3
Variables	Mean Workshop Way	Mean Non-workshop	Mean Workshop Way	Mean Non-workshop	Mean Partial workshop	Mean Non-workshop
Total Personal Adjustment	3.00	4.79	5.74	8.30	6.52	8.30
Total Social Adjustment	1.36	.90	2.97	4.37	2.93	4.37
Total Adjustment	3.96	5.59	8.71	12.67	9.79	12.67

Table Eleven gives us the difference of the differences as follows:

TABLE ELEVEN

California Personality Test - Comparing the rate of growth as shown in the Post-test, Form BB with the rate of growth as found in the Pre-test, Form AA

Variables	Grade Two Class 4 Mean Workshop Way	Grade Two Class 5 Mean Non-workshop	Z Scores	Grade One Class 1 Mean Workshop Way	Grade One Class 3 Mean Non-workshop	Z Scores	Grade One Class 2 Mean Partial Workshop	Grade One Class 3 Mean Non-workshop	Z Scores
Self-Reliance	1.44	1.31	.25	.58	1.30	-1.34	.59	1.30	-1.46
Sense of Personal Worth	.68	.69	-.02	1.61	2.00	- .86	1.55	2.00	-1.00
Sense of Personal Freedom	-.68	-.17	-.94	.00	.33	- .55	.14	.33	- .37
Feeling of Belonging	.96	.79	.29	1.19	1.56	- .77	1.79	1.56	.50
Withdrawing Tendencies	.48	2.17	-3.18	1.42	1.56	- .19	1.59	1.56	.04
Nervous Symptoms	.44	.03	.65	.90	1.56	- .93	.86	1.56	- .87
Total Personal Adjustment	3.00	4.79	-.09	5.74	8.30	-1.28	6.52	8.30	- .85
Social Standard	-.20	-1.00	1.65	.32	.33	.02	.17	.33	- .31
Social Skills	.48	.62	-.25	-.06	.48	- .95	-.62	.48	-2.05
Anti-social Tendencies	.16	.69	-.83	1.71	2.11	- .61	1.70	2.11	- .64
School Relations	1.52	.72	1.36	1.00	1.48	- .82	1.76	1.48	.51
Total Social Adjustment	1.36	.90	.32	2.97	4.37	- .89	2.93	4.37	- .93
Total Adjustment	3.96	5.59	-.57	8.71	12.67	-1.29	9.79	12.67	- .88

In TABLE ELEVEN the same trend continues in that the Z scores say that the control class shows more improvement in personal-social growth than the experimental class. The rate of growth as seen on the chart is significantly greater in these areas of development: (Positive Z scores favor the experimental group and negative Z scores favor the control group.)

Grade Two - Withdrawing Tendencies, -3.18
Grade One - Partial Workshop Way - Social Skills, -2.05.

The rate of growth increase is nearing significance in: (1.96 is sufficient for significance at the .05 level of confidence.)

Grade Two - Social Standards, 1.65
School Relations, 1.36
Workshop Way Grade One - Self-Reliance, -1.34
Partial Workshop Grade One - Self-Reliance, -1.46
Social Skills, -2.05

Considering the results of the California Personality Test as a whole the Workshop Way pupils did not show a faster rate of growth in personal-social development. In fact, they showed a slower rate in most cases although not significant. How does one account for this when the Workshop Way pupils did show significant gains in mental and academic rate of growth? How also account for this when actual experience in all Workshop Way classrooms tells us that personal-social growth is one of the most visible aspects of the program?

May I present my interpolation of the actual interpretation of the results?

In Section 1A - (Self-Reliance) there are four questions that Workshop Way pupils could answer with either a yes or no but only one right answer is given in the answer key.

Before giving examples of such questions the author would like to comment in general about the Workshop Way pupils and the California Personality Test. The test is designed to measure what the test-makers considered behavior that is inherently good for all people. It was revised in 1953 and the author feels that what is actually being measured is the traditional type of behavior expected at that time in the history of our schools. She does not feel that the behavior measured is necessarily the type of behavior that should be encouraged. Knowledge that one is doing as well as other children in school is not necessarily inherently good behavior. Children can be happy and emotionally mature in the knowledge that they can learn. They need not have to know whether or not they are doing as well as others.

The behavior that one seeks to develop depends on what kind of a child one is tyring to create or to mold. Just because a child is obedient and relies on others doesn't make him an inherently "good" child. There are different ways of being inherently good. A child can be good by being obedient; he can also be good by being independent which means that he will not always be "obedient."

Essentially what we are finding is that the Workshop Way system of education is not molding children in a set way so that they will all come out the same. The test results show not much of a change from the time of the prior scores up to the post-tests. Some children are changing in one direction and some are changing in a different direction and when you run the two together in the computer it comes out showing little change and it does not result in as uniform a product as would the traditional way of teaching. According to the data interpretation the Workshop Way does not make a mold. This interpolation is founded upon the terms of a debate. Interpretation of data asserts there is no change. Interpolation by the investigator assumes that there is change but that the direction of change in Workshop Way pupils will be different due to the effects of the elements in the innovated system of education geared to individualization and the operating of personal freedom in the classroom.

What are some of the ways in which a group cannot move as rapidly? According to Dr. Thiessen there are two:

1. If each child is moving but very, very slowly.
2. All pupils are moving just as much but in opposite directions. The pupils are not molded in the same pattern.

This could be tested by looking at the standard deviation of the improvement scores. Dr. Thiessen's prediction is that the Workshop Way has a higher standard deviation. Their changes come about not because of small increments in each person in the same direction but because of scattering in all directions. If the above test is desired, the punched cards would always be available.

In the Workshop Way children are taught about the limitations of human nature and then are helped to accept the facts in life situations. People make mistakes so they must be free to make them without being laughed at and willing to make them if they want to learn. People do not know everything. Therefore, they ask for help and give it freely. People are not always pleasant. They can be angry, disgruntled, and so forth. This is part of the human condition. So pupils answers to questions on the test such as these may differ widely.

Self-Reliance - Is it hard for you to look out for yourself? (It could be <u>hard</u> and yet a pupil could do it.)
Can you keep from feeling bad if people are mean to you? (Pupils could feel bad because the people are mean and not because they are mean to them.)
Do other children usually tell you what to do? (If pupils seek help, others can tell them what to do.)
Do you make a fuss when things go wrong? (One could make a fuss. Remember that human beings do this. Be sorry and try again to control himself.)

Feeling of Belonging - Do you feel bad because the children don't like you? (Pupils could feel bad for the children and not for themselves.)

Withdrawing Tendencies - Is it hard for you to forget your troubles? (It is human to "feel" one's troubles and for some people it is <u>hard</u> to forget them. But he still has power to do something about them - to handle them maturely.)

Social Skills - Do you usually show it when you are angry? (Pupils know it is human to show anger. So answering "yes" does not mean that a Workshop Way pupil is not striving to do something about his anger. In the mean time he admits it.)
Is it usually easy for you to tell people when you are wrong? (Pupils know this can be hard for a human being to do - but they can still do it.)

In the Workshop Way pupils follow a work schedule of tasks independently of the teacher. Early jobs develop concentration so pupils are usually satisfied with what they are doing and are not concerned about competing with peers.

Five Freedoms operate in the environment. One is a freedom of choice. Pupils are permitted to freely work alone or with others. There is no stigma attached to either choice. The four other freedoms are freedom from fear, freedom of conversation while working, freedom of position and freedom of movement.

This will make a difference in the answers given by Workshop Way pupils to the questions on the test. For example:

Sense of Personal Worth - Do the children forget to ask you to play with them? (Pupils may ask each other to work together so they could legitimately forget to ask to play.)
Do the children think you can do hard things? (A yes or no would not indicate undesirable behavior in the Workshop Way pupils. Yes is required. But "no" could mean children are happily busy with what they are doing and so haven't time to think whether or not others can do "hard" things. Neither does it matter because each is doing what he thinks he can do and that is the important need.)

Sense of Personal Freedom - Do you have too little time to play? (Pupils have little time to play because they follow the workshop schedule all day whenever they are not being taught.)
Do you have to do too many things? (There are many things to do. The required answer is "no" but a "yes" could easily be answered because of the "many things" in the question.)
Do you have as much time to play as other children? ("Yes" is required. But Workshop Way pupils spend more time at work and are emotionally satisfied to do so. So they could realistically answer "No.")

Feeling of Belonging - Do the other children often do things for you? ("Yes" is required but pupils could "No" meaning that they are big enough and powerful enough to do their own work.)
Do many of the boys and girls stay away from you? ("No" is required but a pupil in an experimental room could answer "yes" meaning that others choose to work alone or in other locations.)

Social Skills - Do you try to get your own way most of the time? ("No" is required but a pupil could easily say "yes" since he is free to choose what he does most of the time.)

Sense of Personal Freedom - Do your folks let you do many of the things you like? ("Yes" is required but "No" was answered frequently by the pupils. It may be that in contrast to the freedoms enjoyed in the classroom, the children were aware of having to do what the adults wanted them to do most of the time at home.)
Do your folks let you pick your friends? (Again in contrast to the freedom of choosing friends in the classroom, pupils could answer "No." "Yes" is correct.)

Teachers are free to individualize in the experimental classroom. This means that the more able learners do not have as much time with the teacher on a tutor-tutee basis. So under

School Relations - Do you think that the teachers are more friendly to other children than you? (A pupil could answer "yes" meaning that the teacher was with other children more time.)

Withdrawing Tendencies - Do you like to stay away from many of the children? (Freedom to choose to work alone or with others frees the pupil to answer "yes" to this question.)
Do you like to stay alone so people will not bother you?
Would you rather do things alone than with other people? (The pupils are used to freedom of choice in these matters.)

Workshop Way teachers notice that attendance goes up in this system. When children are absent they are usually sick.

Nervous Symptoms - Do you miss school often because of sickness? ("No" is required but since sickness is the reason for most absences children could answer "yes" because that is the only answer they often have for being absent.)

Social Standards - Should children do as they please to other people? ("No" is required but yes can be the answer for pupils because "doing as they please to other people" could readily mean helping them as they want to.)
Is it wrong to talk back to people who are not nice? (According to Workshop Way philosophy human beings should help one another to become more easy to live with so one can have peace and pleasantness in the environment. Most of the Workshop Way pupils answered "No" to this, meaning that talking is a tool with which to help each other. "Yes" was the required answer.

Note on page 72 that the areas in which the control group scored much higher than the experimental group were: Withdrawing Tendencies; Social Standards; Social Skills, School Relations; and Self-RElliance. Note that the headings of sections containing questions that Workshop Way pupils could answer either way are for similar areas.

CHAPTER SEVEN

Findings and Conclusions from a Study of Graphs of Mental Growth of Primary Students in Workshop Way Classrooms and in Non-workshop Classrooms

Rationale for Choice of Graphs

It is claimed that every child succeeds to some degree in the Workshop Way. Stanines have too wide a range to show growth that happens at a slow pace. If a pupil has the lowest score given for stanine three in September and the highest score for stanine three in May, there has been noticeable growth. Using stanines on graphs would not show this.

Standardized tests yield percentiles and grade equivalents. The latter is more meaningful to teachers. Therefore, the graphs will show the parts of a class as they fall into IQ or grade equivalent groupings. In this chapter only Mental Growth will be considered.

If a system of education enables all pupils to move ahead in learning to some degree of success and prevents supposedly slower learners from regression within a year, it contains an important factor that must be studied and made manifest in the evaluation of the system.

Academic, personal and social growth will be possible if mental growth really happens first.

Grade One

The Pintner-Cunningham Primary Test, Form A was given in October, 1969 and Form B was administered in May, 1970. Graphs follow to show the results.

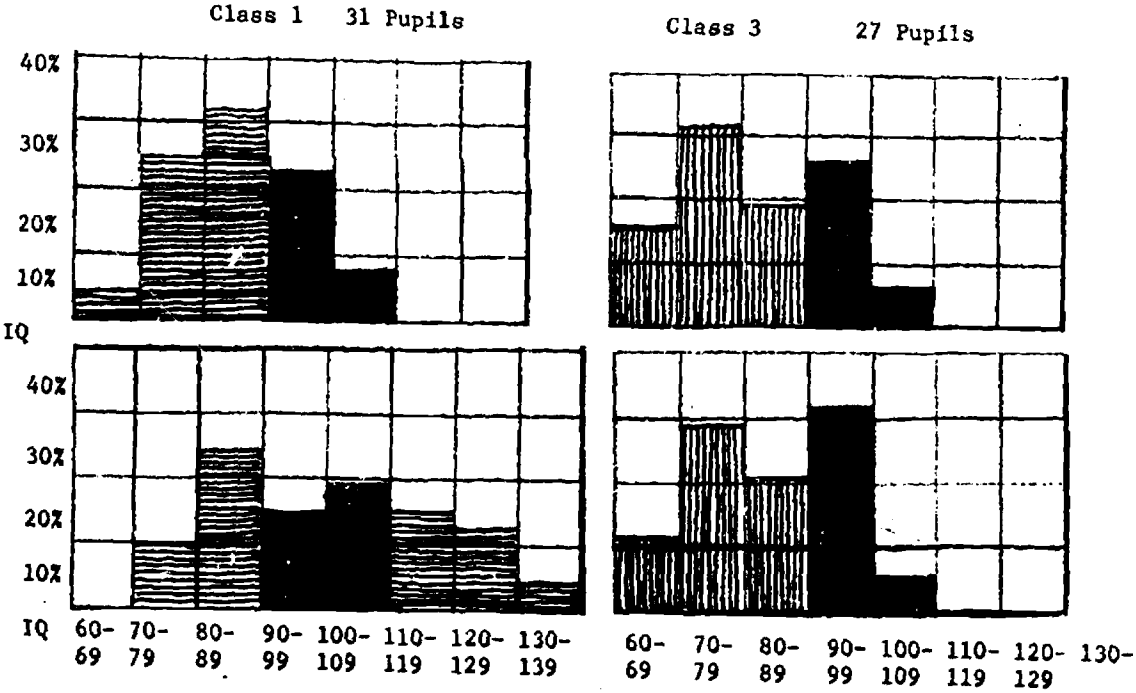
Each box represents ten percent of the class in the various IQ groupings shownunder each graph. The heavily shaded column shows the low and high normal IQ's - 90 to 109. A glance to the left of this column or to the right will reveal the below and above normal IQ's.

Class 1 = Workshop Way (Experimental)

Class 2 = Partial Workshop Way (Experimental)

Class 3 = Control Class

Pintner-Cunningham Primary Test
Form A, Grade One
Pre-test: Class 1 - Oct. 4, 1969
Class 3 - Oct. 4, 1969
Post-test: Class 1 - May 7, 1970
Class 3 - May 6, 1970



How the classes changed in 7 and a half months:

Experimental- Class 1

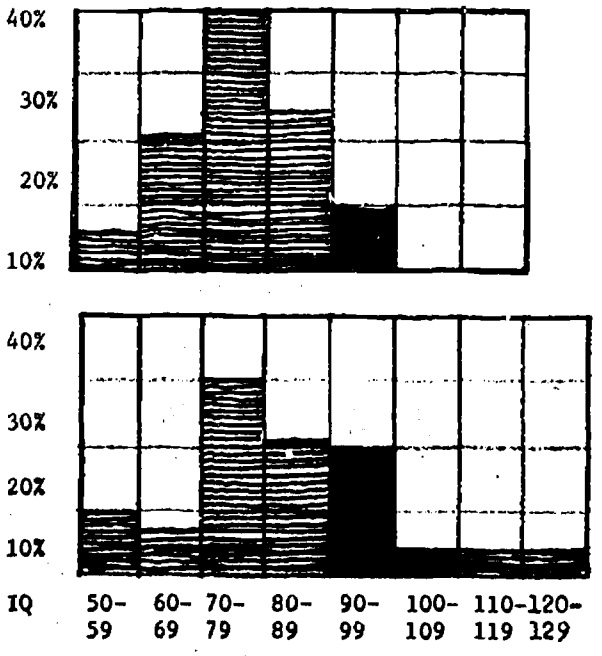
IQ	October	May
60-79	32%	10%
80-89	37%	24%
90-109	31%	34%
110-139	None	32%

Control - Class 3

IQ	October	May
60-79	48%	40%
80-89	19%	22%
90-109	33%	38%
110-139	None	None

Pintner-Cunningham Primary Test
Form A, Grade One
Pre-test: October 3, 1969
Post-test: May 6, 1970

Class 2 29 Pupils



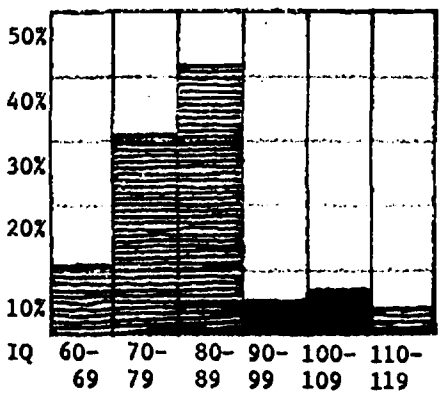
How the classes changed in seven and a half months:

Partial Workshop Way

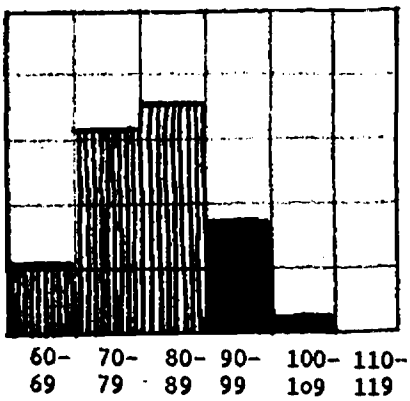
IQ	October	May
50-79	67%	47%
80-89	24%	21%
90-109	9%	24%
110-139	None	8%

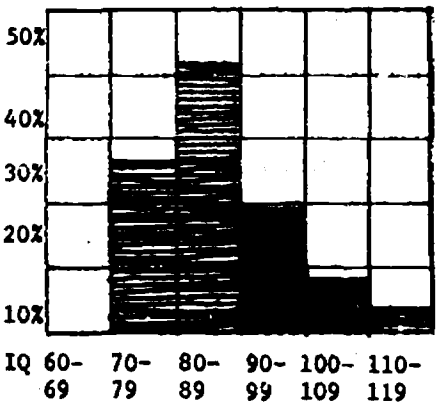
Otis-Lennon Mental Ability Test - Grade Two
Elementary I - Form J Pre-test: December 11, 1969
Form K Post-test: May 7, 1970

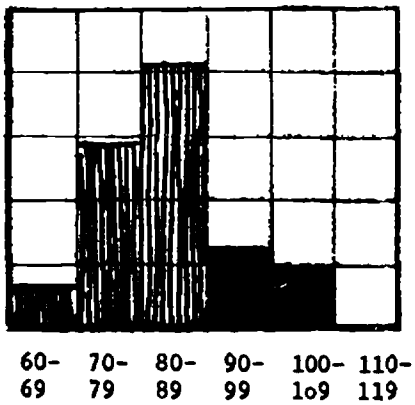
Class 4 -Experimental
26 Pupils



Class 5 - Control
29 Pupils







How the classes changed in five months:

Experimental:

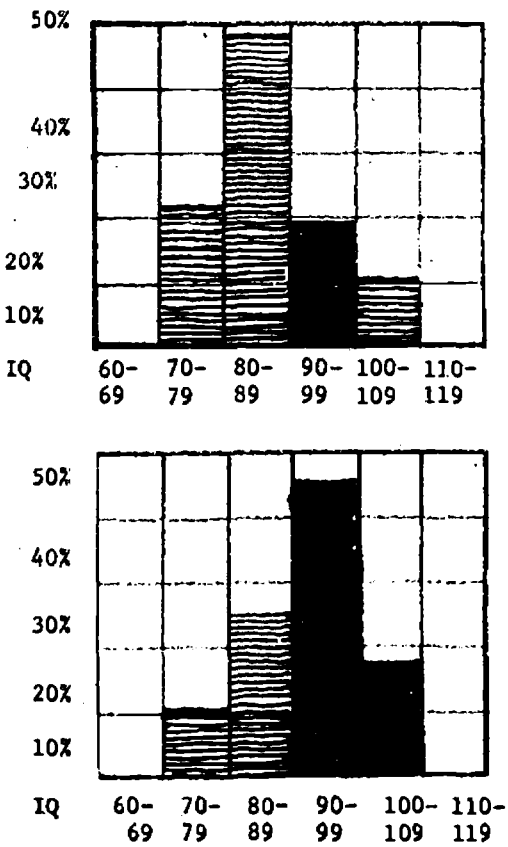
IQ	Dec.	May
60-79	42%	23%
80-89	42%	46%
90-109	12%	27%
110-119	4%	4%

Control:

IQ	Dec.	May
60-79	43%	36%
80-89	36%	39%
90-109	21%	25%
110-119	None	None

Below is a graph showing the mental growth in another second grade Workshop Way class in the school where the research was done. The pupils were given the same tests as the research classes.

Otis-Lennon Mental Ability Test - Grade Two
Elementary I - Form J Pre-test: December 11, 1969
Form K Post-test: May 7, 1970



How the class changed in five months:

IQ	Dec.	May
60-79	22%	11%
80-89	48%	25%
90-109	30%	64%
110-119	None	None

Conclusion:

The author believes that the evidence of mental growth of students in Workshop Way classrooms is clearly visible in the preceding graphs. Therefore, the study warrants further research in developing and perfecting the Workshop Way as a system of education for our time in the history of mankind. The evidence herein presented came about even without fully developed and experienced Workshop Way teachers. Whereas the control teacher was rated exceptional as a traditional classroom teacher. The academic results in the traditional classroom as will be seen in Chapter Eight testify to the excellence of the teacher of the control classroom. The preceding graphs show some mental growth in the control classroom but it is dramatically inconsistent when compared to the degree of academic growth for the same pupils.

CHAPTER EIGHT

Findings and Conclusions from Study of Graphs on Academic Growth

Rationale underlying the
type of graphs used:

The Workshop Way author claims that every child learns in the system and that all pupils succeed to some degree. If stanines were used in the graphs, the wide range of scores within each stanine would hide the progress of pupils whose learning rate is presently very low. Therefore, grade equivalents were chosen because

(1) Progress can be seen more easily.
(2) Grade levels are more meaningful to teachers.

In Grade One, the Metropolitan Readiness Test was given as the pre-test and the Metropolitan Achievement Test, Primary I Battery, Form A as the post-test.

Graphs follow to show the results for the control and experimental groups. The control teachers were not aware of their role in the research design but were made to feel that their role was an experimental one also. The teachers were given three kinds of audio-visual materials: tape recorder, language master, and record player with ear phones. The director of the research instructed them on the use of the aids. They were regularly contacted throughout the year by the director. It is assumed that this attention and a feeling of importance that the teachers had towards the project contributed to success for them also.

Class 1 = Workshop Way (experimental)
Class 2 = Partial Workshop Way (experimental)
Class 3 = Control Classroom

The author of the Workshop Way risked having the experimental teachers chosen by the principals with the consent of the teachers. What happened in the risk was explained under Problems in Chapter Four. One experimental classroom was given the name of Partial Workshop Way.

Each box in the graphs represents 10% of the class in the grade level groupings. The heavily shaded column includes the average and above average.

Grade One graphs follow:

Metropolitan Achievement Test - Grade One
Primary One Battery, Form A
May 18-19,1970 Class 1
May 26-27, 1970 Class 2
May 18-19, 1970 Class 3

WORD DISCRIMINATION

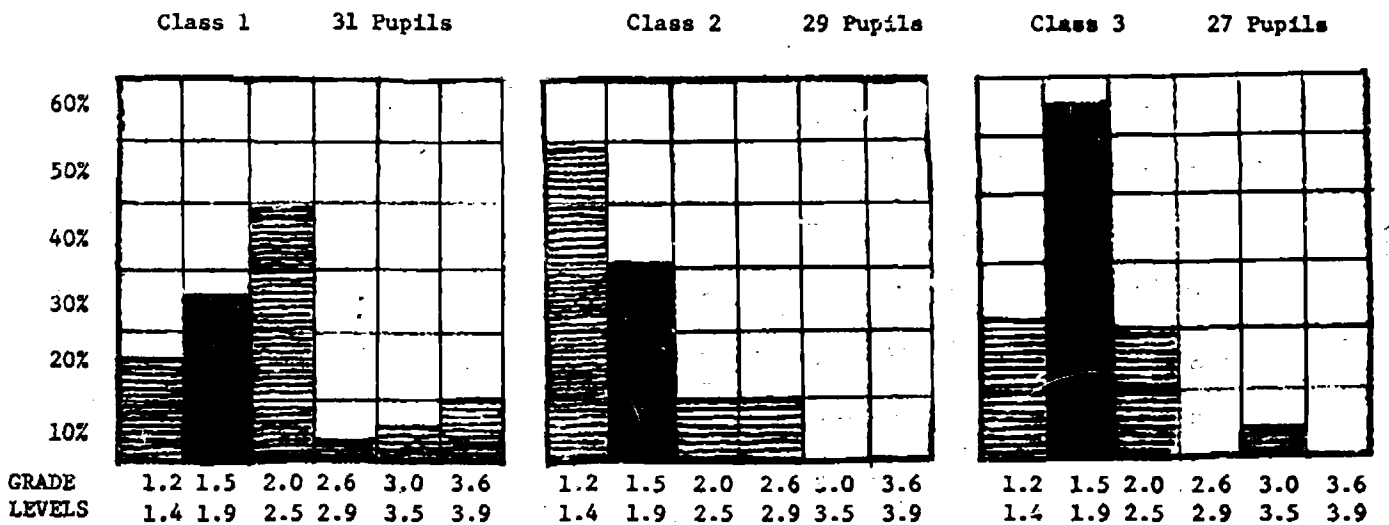


Table One

Metropolitan Achievement Test - Grade One
Primary 1 Battery, Form A
May 18-19, 1970 Class 1
May 26-27, 1970 Class 2
May 18-19, 1970 Class 3

WORD KNOWLEDGE

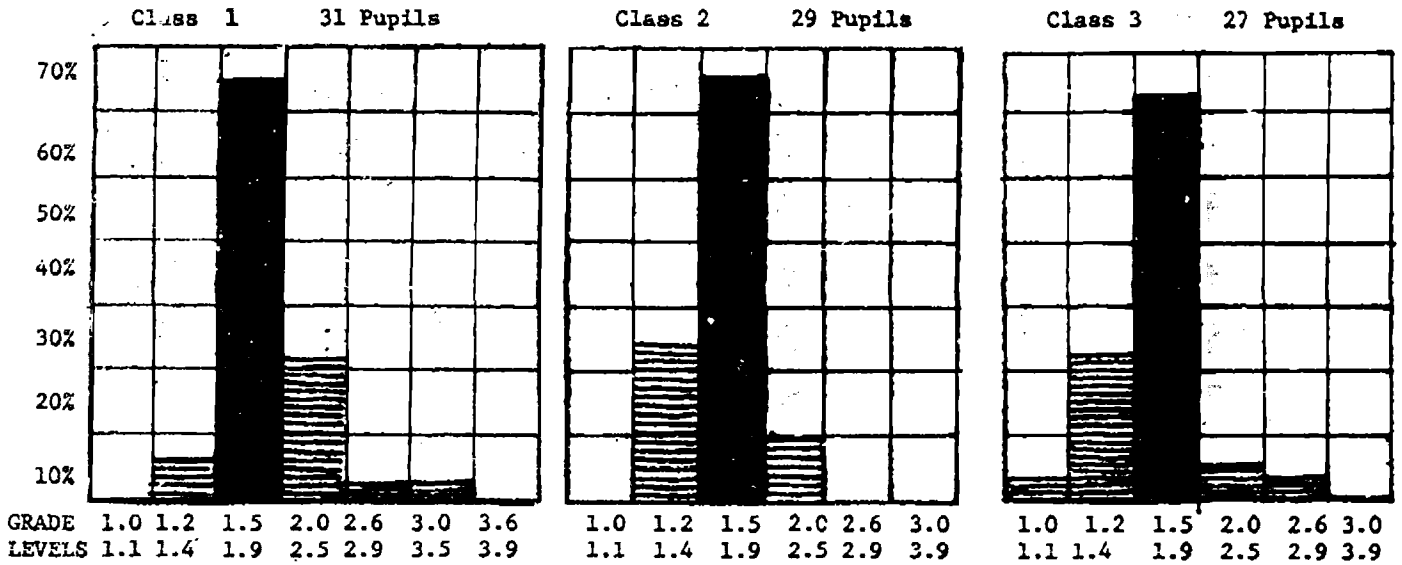


Table Two

Metropolitan Achievement Test - Grade One
Primary One Battery, Form A
May 18-19, 1970 Class 1
May 26-27, 1970 Class 2
May 18-19, 1970 Class 3

READING

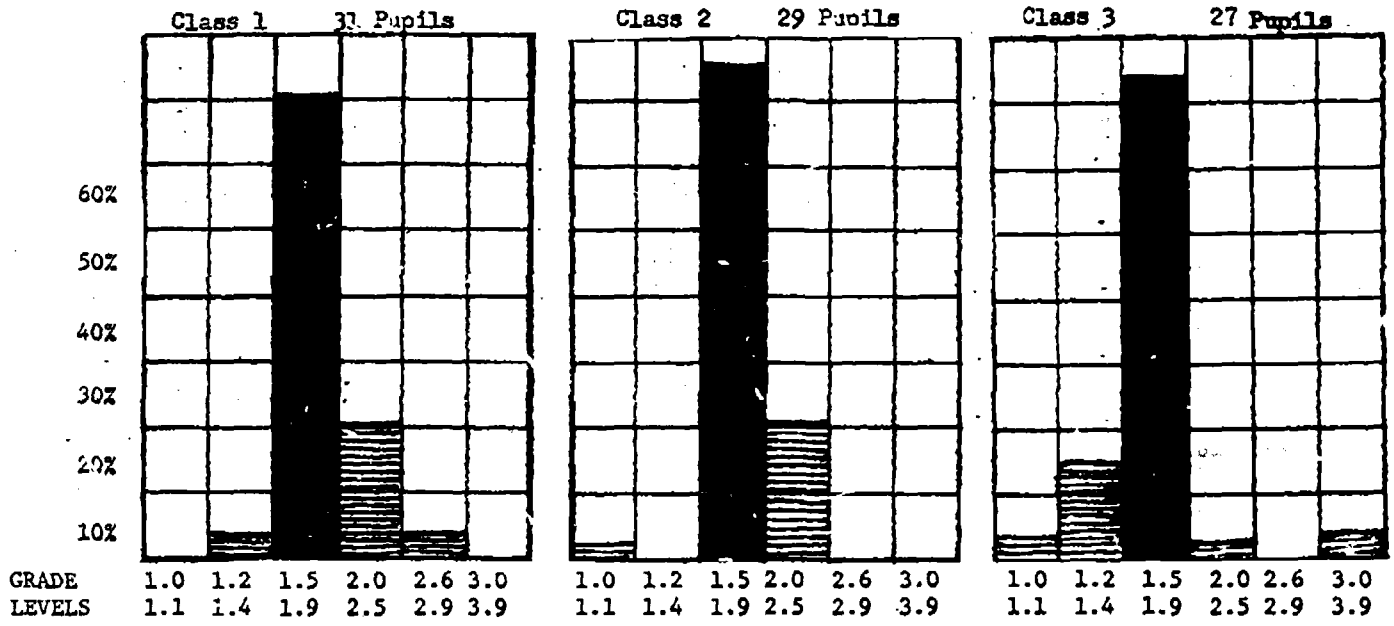


Table Three

Metropolitan Achievement Test - Grade One
Primary One Battery, Form A
May 18-19, 1970 Class 1
May 26-27, 1970 Class 2
May 18-19, 1970 Class 3

ARITHMETIC CONCEPTS AND SKILLS

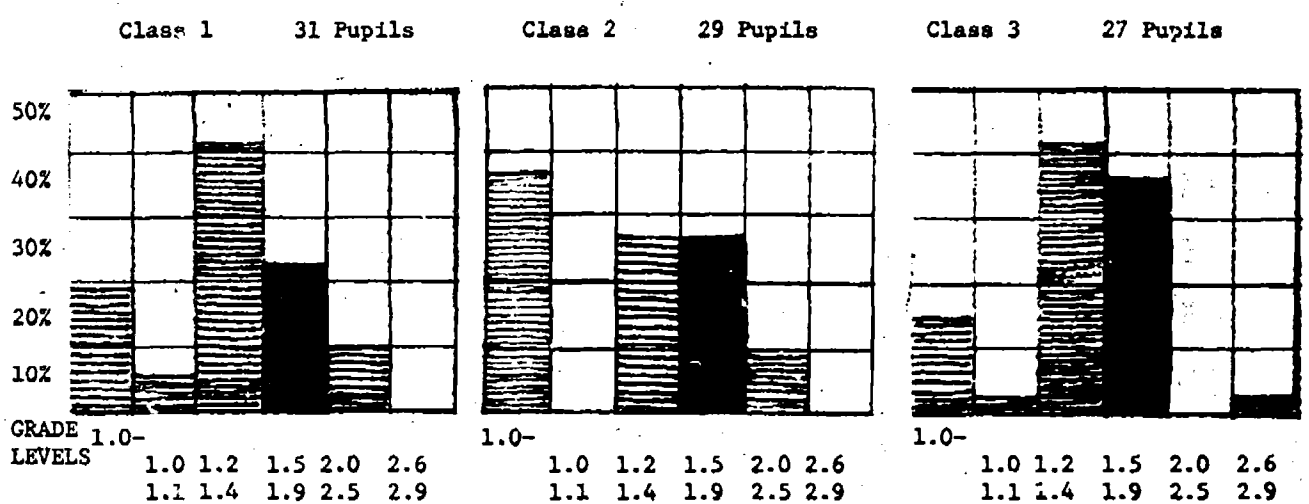


Table Four

Note: (1) On all the tests geared to testing language art skills there are no scores in the grade equivalent 1.0- column which would indicate complete failure.

(2) In Table 1, the Workshop Way class #1 has more pupils above grade level than does the control class.

The Partial Workshop Way class did not show up in this area because of the problem as a result of our risk in the selection of the teacher. However, even with the problem, the pupils were prevented from failure, the lowest level being 1.2.

The control class did very well. The teacher was chosen because she was an excellent teacher in the traditional system. Her enthusiasm for the project most likely added to her success.

In Table 2, the experimental Workshop Way class had fewest pupils in lower grade levels and more pupils going up as high as 3.5.

The Partial Workshop Way class had no pupils in the failure columns and had nearly similar success as that found in the control group.

The control group had about 4% of the class in 1.0-1.1 grade levels.

In Table 3, the Workshop Way class had only 3% of the class below average in reading and these were in the 1.2-1.4 grouping. It had the greatest percent of the class above grade level but no one reaching as high as the control group. In the latter class there were two very good students by chance from the start.

The Partial Workshop Way class had 3% of the class below average while the control group had 19% below average. The Partial Workshop Way had 22% of the class above grade level while the control group had 8% above grade level. However, the control class had 4% of the class in a highest grade level group.

In Table 4, Arithmetic Concepts and Skills, the experimental groups manifest their weakest point. However, it is by design that the Workshop Way system is committed to the development of language arts as a priority content.

By examining the graphs one can note that the commitment to language arts first does not hold back most of the pupils even in the content of math.

The control group shows fewer pupils in the 1.0- column and a little more in the highest grade level. However, both experimental groups show a greater percent of pupils in general above grade level but not by much.

In Grade Two, the stanford Achievement Test, Primary I Battery, Form X was given as a pre-test and the same test, Primary II Battery, Form X as the post-test.

Graphs follow to show the results for the control and experimental groups. Since there was another second grade Workshop Way class in this school, the same tests were administered to it and at the same time of the year as were given to the research classes. Graphs of their results are included to add interest to the study and to show that the two Workshop Way classes are somewhat alike in the movement of academic growth.

#4 = Experimental Group

#5 = Control Group

#6 = The other Workshop Way class not in the research design

Each box in the graphs represents 10% of the class in the grade level groupings shown under the graphs. The heavily shaded column shows the average and above average scores.

Stanford Achievement Test - Grade Two — WORD MEANING

Workshop Way #4	Non-workshop #5	Workshop Way #6
Pre-test 9-23,24-1969	Pre-test 9-25,26-1969	Pre-test 10-14,15-1969
Post-test 5-20,21-1970	Post-test 5-19,20-1970	Post-test 5-15,16-1970

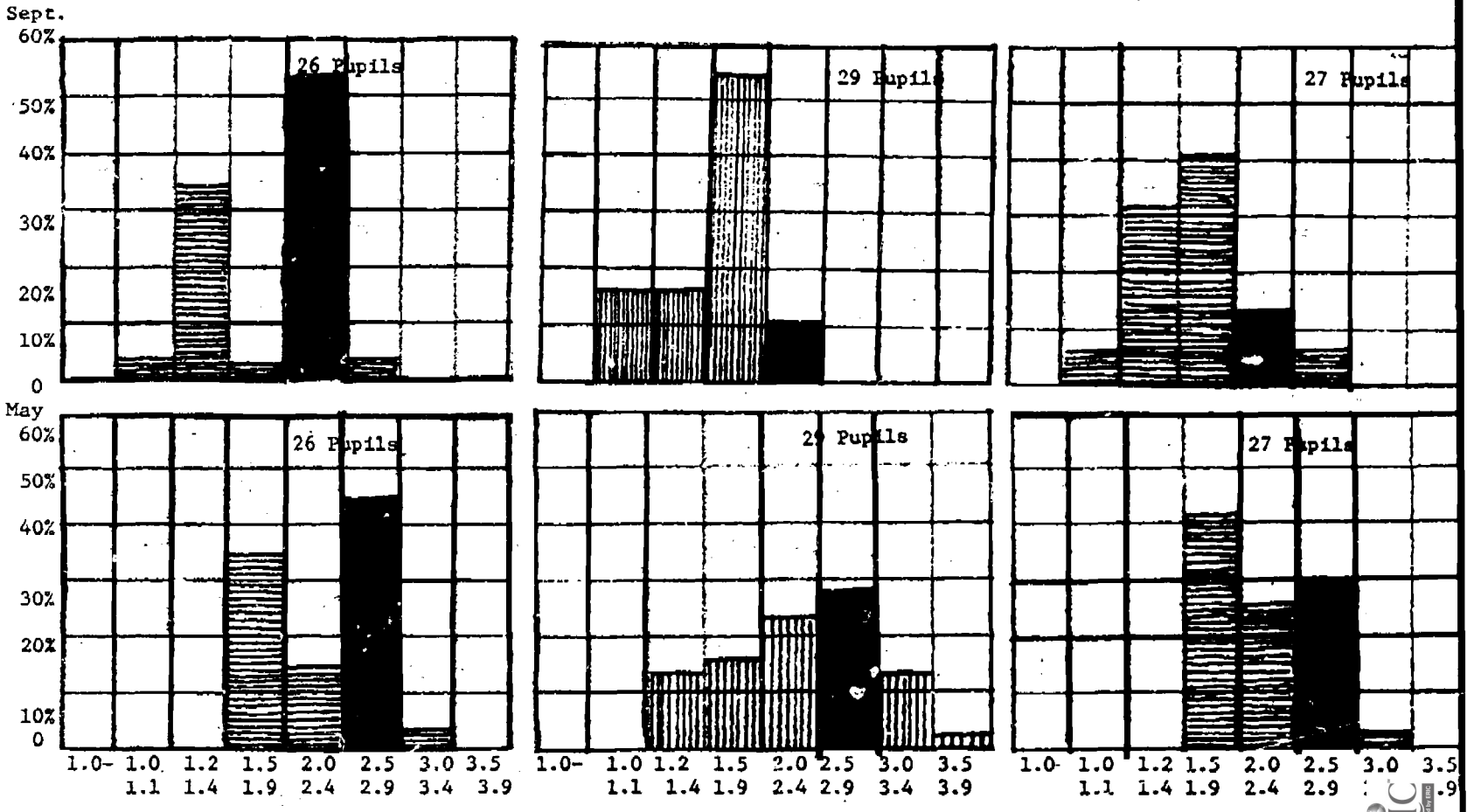


Table 5

With Table 5, we begin to see the results of the Stanford Achievement Tests for second graders. In word meaning, all of the groups show progress. All of the children had the Workshop Way in the first grade. Groups 4 and 6 also had Workshop Way in second grade. The three lowest grade levels are removed by May. Group 6 was not in the research design but is added as an interesting observation. The teacher of Group Six had taught thirty-eight years before changing to the Workshop Way.

In Table 6, let us look at the results of the sub-test Paragraph Meaning. In the Workshop Way classes note that we see the lowest levels removed and the highest levels reached up to 3.5. Also, many pupils are continuing to succeed in the second grade even though they are not continuing in the Workshop Way. One type of behavior common in traditional classrooms in disadvantaged areas begins to show up in the graph. Note that the 1.0- failure group increases from September to May and that 35 percent of the class still remains in low grade equivalencs 1.2-1.4 where they will be in the third grade.

It should be mentioned that all the pupils in the second grade experiment are black and live in a poverty area of New Orleans.

Stanford Achievement Test-Grade Two
Pre-test 9-23,24-1969
Post-test 5-20,21-1970

#4 Workshop Way 26 Pupils

PARAGRAPH MEANING
Pre-test 9-25,26-1969
Post-test 5-19,20-1970

#5 Control 29 Pupils

Pre-test 9-14,15-1969
Post-test 5-15,16-1970

#6 Workshop Way 27 Pupils
Non-experimental

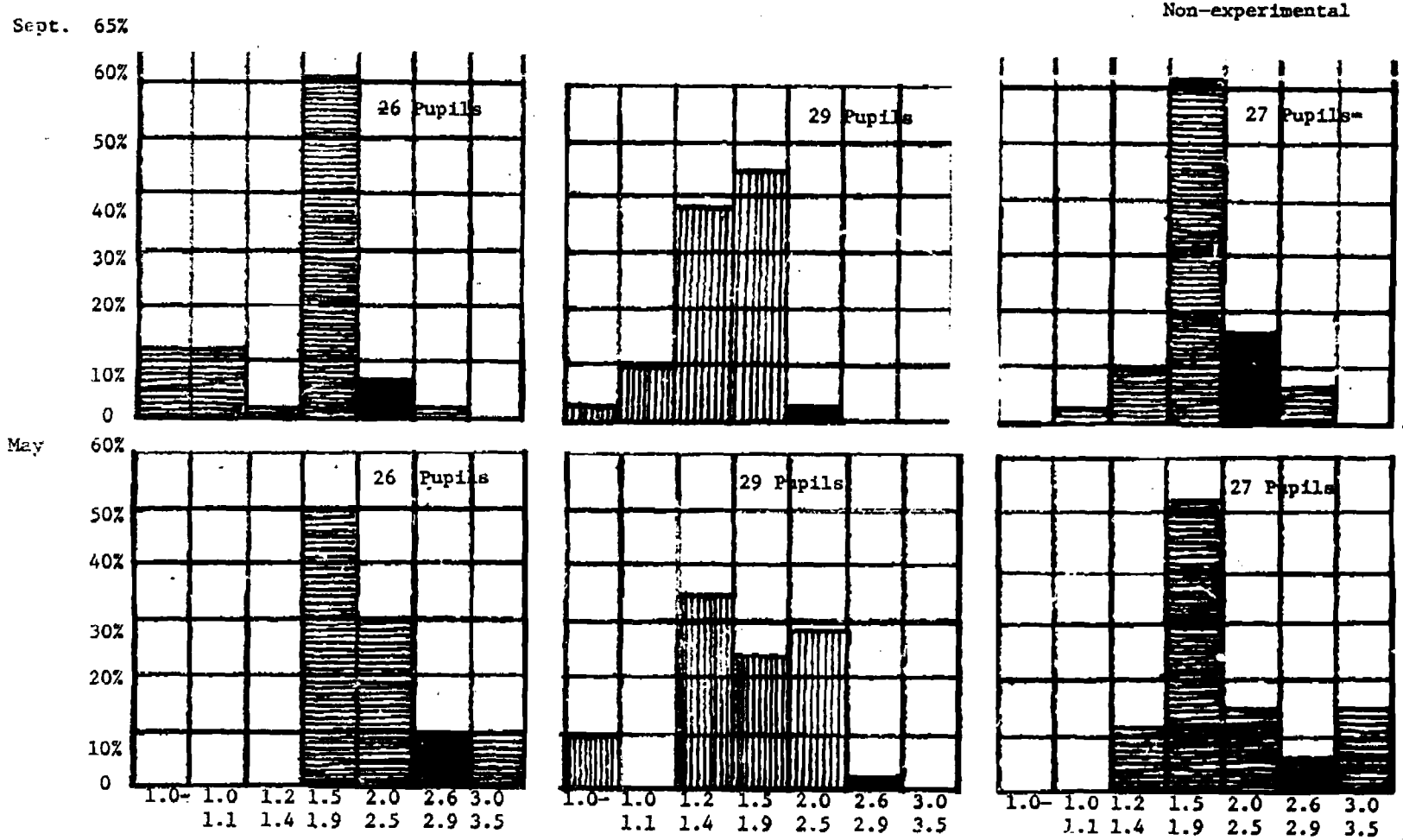


Table Six

SPELLING

Stanford Achievement Test - Grade Two

Pre-test: 9- 23,24 - 1969
Post-test: 5 - 20,21 -1970

Pre-test: 9 - 25,26 - 1969
Post-test: 5 - 19,20 - 1970

Pre-test: 10 - 14,15 - 1969
Post-test 5 - 15,16 - 1970

Class 4 31 Pupils

Class 5 29 Pupils

Class 6 27 Pupils

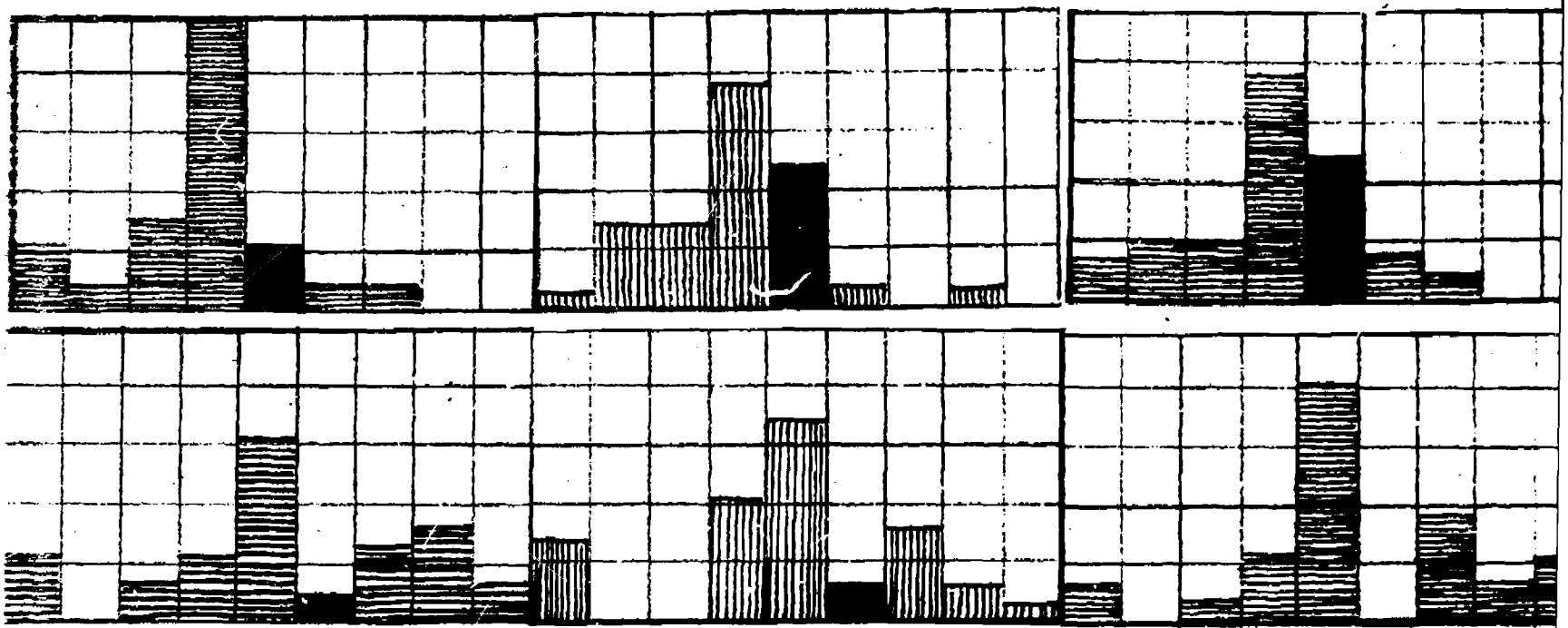


Table Seven

Spelling is not formally taught in the Workshop Way. It becomes a workshop task requiring pupils to study a lesson and then another workshop task calling for a test with a partner or by using a programmed card. We also assume that the phonics activities and homework vocabulary project help the pupils to spell. In Table 7, all the groups continue to improve-experimental and control. However in the control group 5 we see pupils regressing as shown by the increase of the percent in the first columns. We also see greater increases in the last two columns in the Workshop Way classes 4 and 6.

Stanford Achievement Test - Grade Two

Pre-test: 9-23,24 -1969
Post-test: 5-20,21 -1970

WORD STUDY SKILLS

Pre-test: 9 - 25,26 - 1969
Post-test: 5 - 19,20 - 1970

Pre-test: 9- 14,15, 1969
Post-test: 5- 15,16, 1970

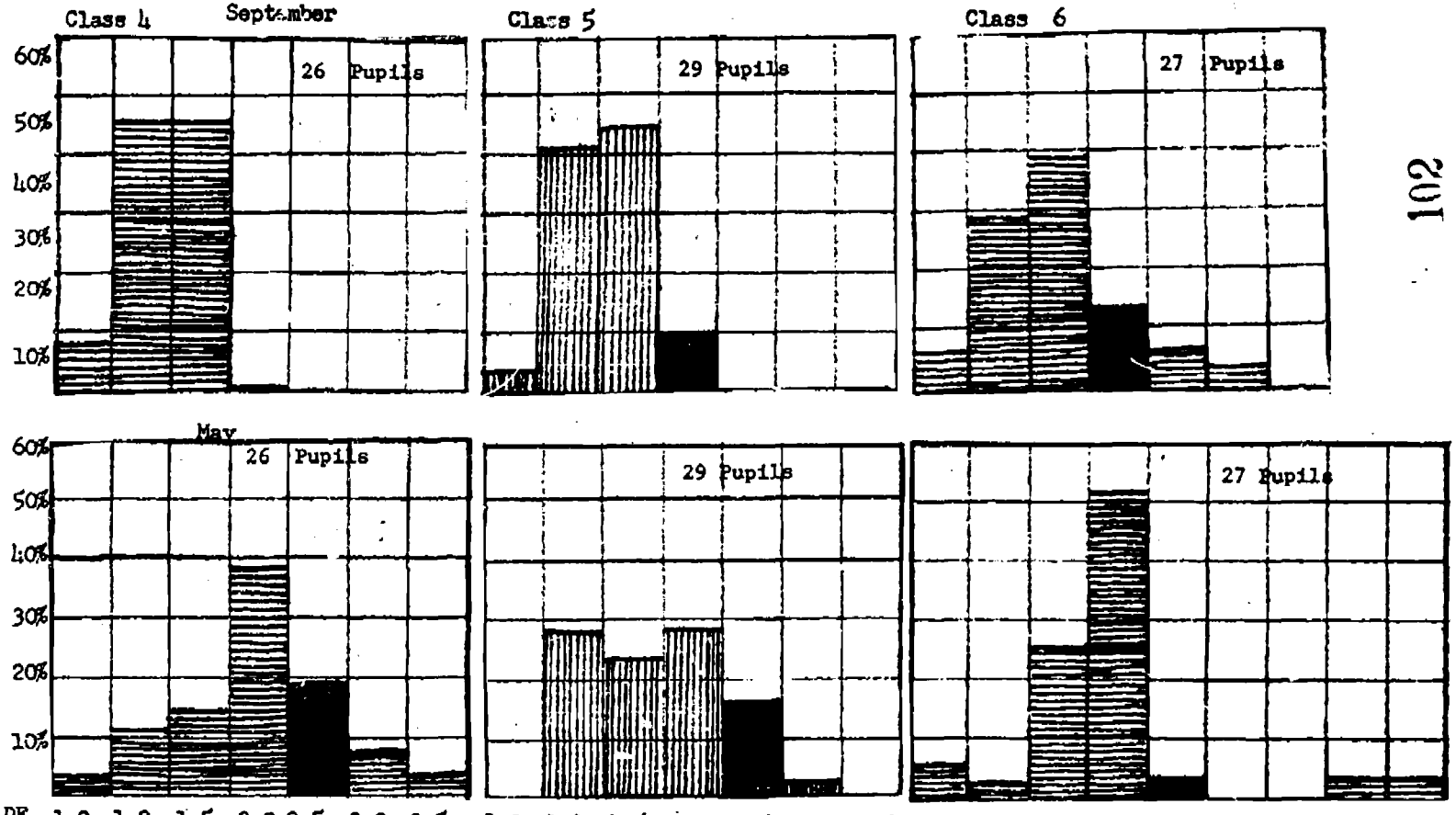


Table Eight

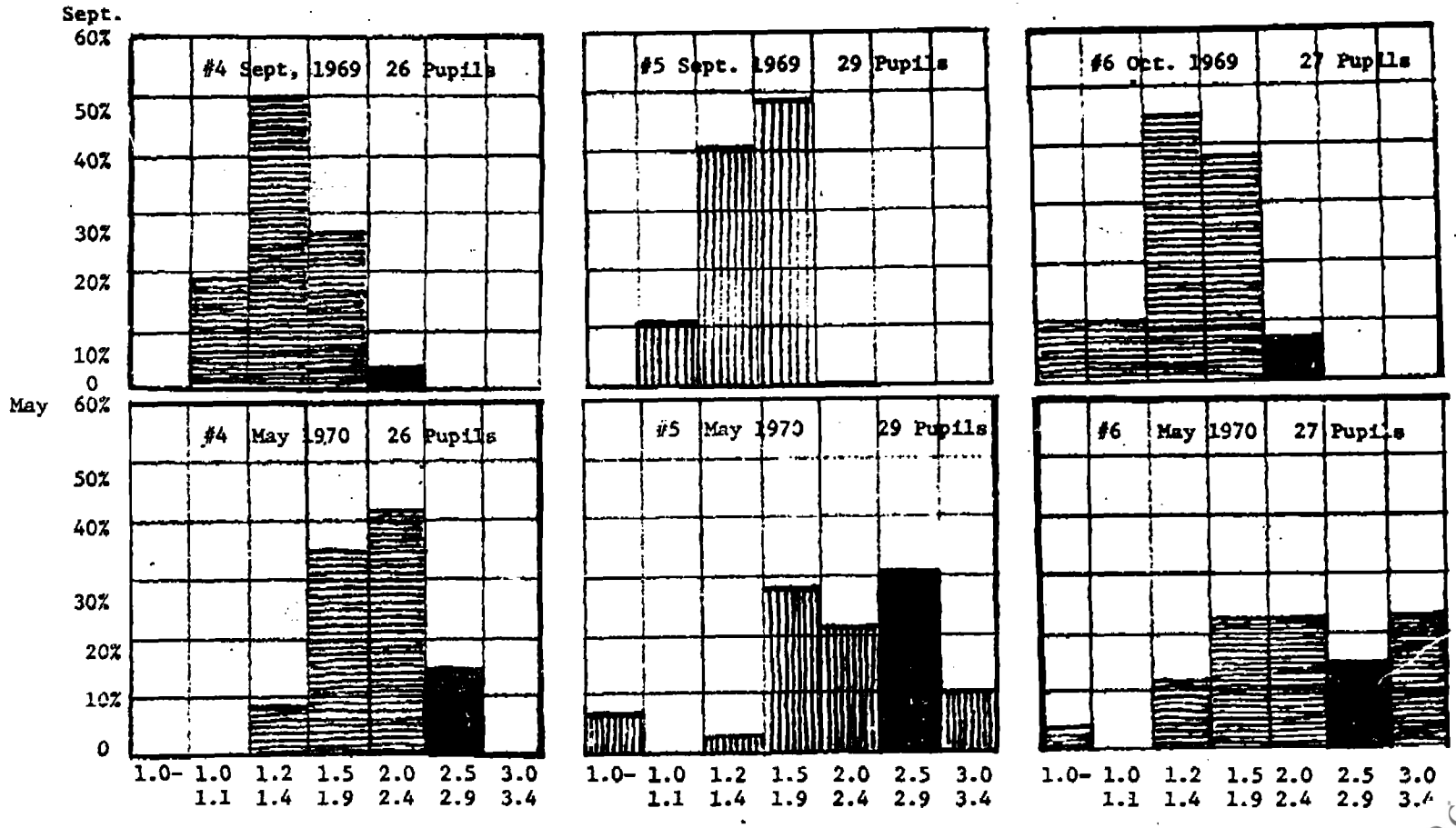
In Table 8, Word Study Skills show continued improvement in all groups. In fact, the control group removed all pupils from the two lowest levels by May. Some pupils advanced to higher levels in the Workshop Way classes.

In Table 9, Arithmetic Computation, the control group 5 had a greater number of pupils going up to higher levels. But again we see regression of the slower learners. In the pre-test no one was in the 1.0- column and there are some in the 1.0- column of the post-test. In the Workshop Way May results, all the pupils moved up to some degree. In the Workshop Way class 6 we see a slight regression but much forward movement as in the control class.

In Table 10, Arithmetic Concepts, a very great difference is seen in both Workshop Way classrooms - numbers 4 and 6. In the experimental group, all pupils in the first three columns moved to higher levels and almost all in the non-research Workshop Way class. However, much movement ahead in learning is seen in the control class, in which we also see the highest scores.

ARITHMETIC COMPUTATION

Stanford Achievement Test - Grade Two



ARITHMETIC CONCEPTS

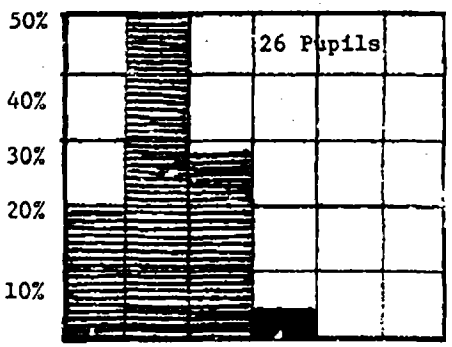
Stanford Achievement Test

Pre-test September, 1969
Post-test May, 1970

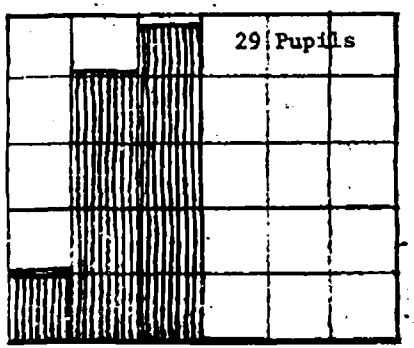
Grade Two

Sept.

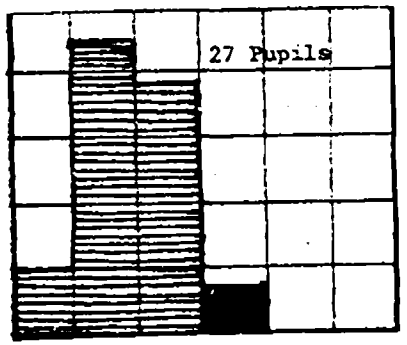
#4 Workshop Way



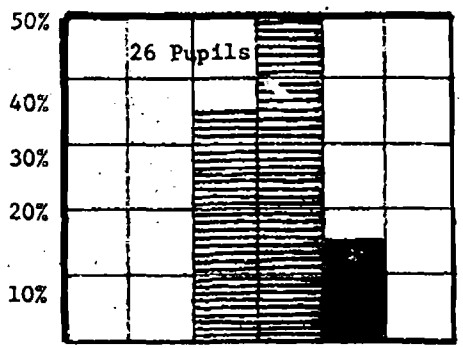
#5 Control Group

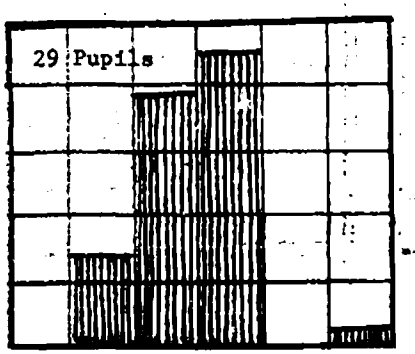


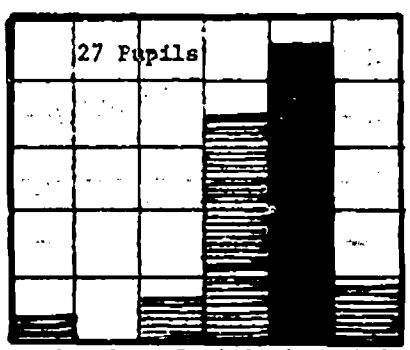
#6 Workshop Way



May







GRADE	1.0	1.2	1.5	2.0	2.5	3.0+
LEVELS		1.4	1.9	2.4	2.9	

1.0	1.2	1.5	2.0	2.5	3.0	
1.1	1.4	1.9	2.4	2.9	3.4	

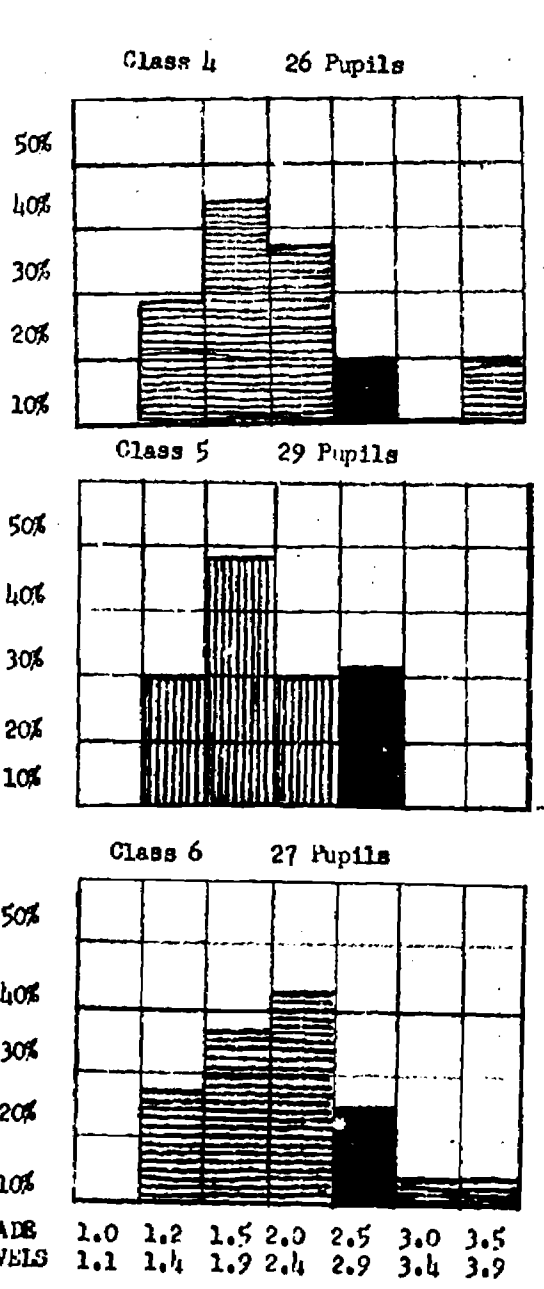
1.0	1.2	1.5	2.0	2.5	
1.1	1.4	1.9	2.4	2.9	

In the Workshop Way, during the first year or two in the learning process, the system is geared towards effective learning in the area of language arts. Since it takes time to teach every child how to read, to think, to speak, and to write, some curricular subjects are not taught formally. Language is one of these subjects. However, it is really built into the system and goes on all day in workshop classrooms. Science and Social Studies are not taught formally. But they are not neglected. Workshop Tasks and Thinkers give the pupils experiences in these subjects. It is also assumed that when human beings are allowed to develop human faculties early in the educational process that all of their experiences become more meaningful to them and pupils learn more from them. So learning does not stop at the close of the school session.

In Table 11, we see the results of tests in language and science and social studies. There were no pre-tests in these subjects. Again keep in mind that our control class had Workshop Way in the first grade. In all classes complete failure is prevented in both subjects. In the Workshop Way classes more children reached higher grade levels.

Stanford Achievement Test - Grade Two
No pre-tests
Post-tests: Class 4 - 5-20,21 - 1970
Class 5 - 5-19,20 - 1970
Class 6 - 5-15,16 - 1970

SOCIAL STUDIES and SCIENCE



LANGUAGE

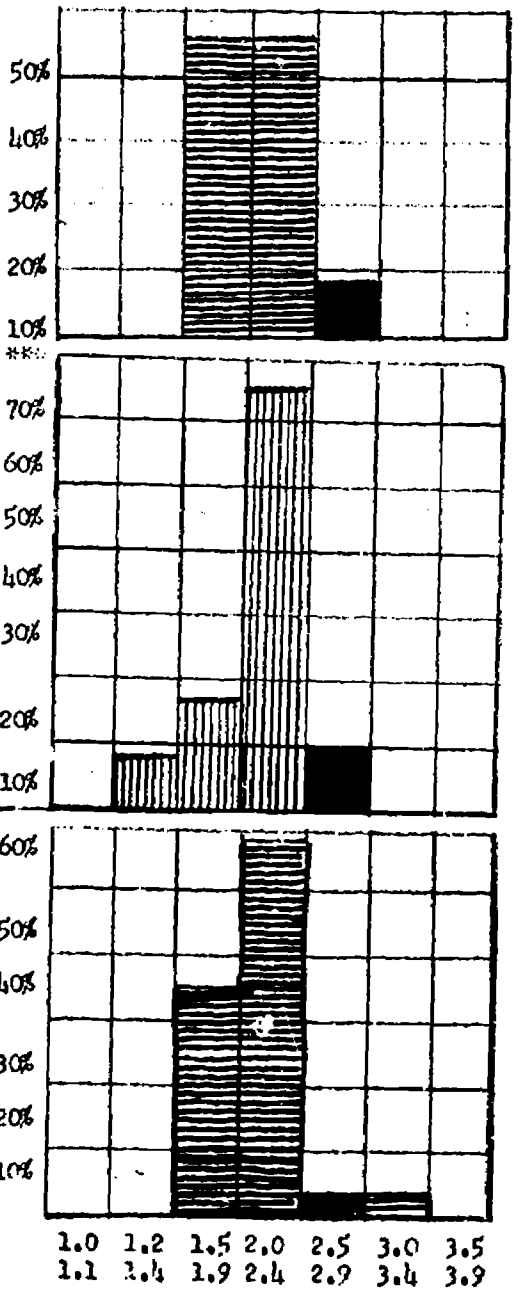


Table Eleven

CHAPTER NINE

Results of the Study and Recommendations

OBJECTIVES

(1) To determine if the unique combination of a special physical and social organization of a classroom with a homework plan, a phonics program and flexible scheduling and parental involvement as found in the Workshop Way causes a significant difference between the rate of mental, academic, and personal-social development of first grade students of Workshop Way classrooms and in students of non-workshop classrooms.

(2) To determine if students who continue working in workshop classrooms continue also to make more rapid progress in their mental, academic, and personal-social development than do students who no longer continue in workshop classrooms. Interest is in long term as well as short term achievements.

(3) To determine if there is any transfer of skills learned through the Workshop Way to subjects not formally taught in the Workshop Way classroom in a separate period.

The computer analysis of the data gathered from pre and post tests of first graders who operated within a research design during the 1969-1970 school year shows that the unique combination of a special physical and social organization of a classroom with a homework plan, a personality-phonics program, flexible scheduling, flexible curriculum, and parental involvement as found in the Workshop Way causes a significant difference between the rate of mental and academic development of first grade students of Workshop Way classrooms and in students of non-workshop classrooms.

Tables given in Chapter Four show the statistical evidence of the significance in mental growth. Tables in Chapter Five show the statistical evidence in academic growth. It remains to be seen if scientists will accept the interpolation of the author as she discusses the results of the California Personality Test which literally show that the Workshop Way pupils did not do better than the control groups in personal or social growth in Chapter Six. The interpolation is given since there is actual evidence in the Workshop Way classrooms that children develop psychologically and emotionally while growing mentally and academically. So personal-social growth is seen.

The computer analysis of the data gathered from pre and post tests of second graders who operated within a research design during the 1969-1970 school year shows that students who continue working in workshop classrooms continue also to make more rapid progress in their mental and academic growth than do students who no longer continue in workshop classrooms. However, the results show that most children who had the Workshop Way in the first grade continued to do well in the second grade.

The actual results of the California Personality Test do not show that Workshop Way pupils make more progress than do pupils who no longer continue in workshop classrooms. The trend in the pattern of the test results in this area with first graders persists with second graders. Therefore, the author assumes that the 1953 California Personality Test measures behavior as sanctioned in traditional classrooms and not that desired and encouraged in Workshop Way classrooms. Therefore, the author discusses her interpolation of the results in Chapter Six.

The computer analysis of the data gathered from pre-tests and post-tests of second graders who operated within a research design during the 1969-1970 school year shows that there is a transfer of skills learned through the Workshop Way to subjects not formally taught in the Workshop Way classroom in a separate period. In Chapter Six, Table Six shows the gains in subjects not taught formally. The author feels confident in stating that if the test results of the six pupils who were transferred from the experimental group were included, the results would be significant in social studies and in language.

In the light of the analysis of the data, the author also assumes that if the control class had not been taught the Workshop Way in the first grade, the significance would be much greater than that seen in Table Six.

CONCLUSION

This particular study was made to measure mental, academic, and personal-social growth of children in two different systems of education. Since the development of children happens over a long period of time, it is conceded that one year of research on a project that measures development of children has its limitations. The reality of the existence of our problems has hindered the usual results that the Workshop Way is capable of producing. However, even with the problems that were met, it seems to this author that the following discoveries warrant further research in developing and perfecting the Workshop Way as a system of education for our time in the history of mankind:

1. In Workshop Way classrooms all pupils can learn to some degree. This is shown by scores skewed to the right in our graphs, and by almost a total absence of scores in the lowest categories to the left in the graphs. It is also shown in the computer analysis of the data.

2. In Workshop Way classrooms slower pupils tend to progress while in the control group, they tend to regress. This progress happens to the degree that the time factor in Workshop Way techniques and organization of curriculum are followed.

3. Subjects listed to be taught formally in school systems today but taught only informally in the Workshop Way show better in Workshop Way classrooms.

4. If children have had Workshop Way in Grade One most pupils will continue to be successful even if they do not continue to have Workshop Way in the following grade.

5. In Workshop Way classrooms mental growth of most students is strikingly manifested. Whereas in the control classroom pupils having an excellent traditional teacher showed only slight growth mentally. This phenomenon is all the more dramatic when one looks at the outstanding academic achievement of the same students.

6. In Workshop Way classrooms, there is a very clear picture that pupils of inner-city classrooms move out of the 60 and 70 I.Q. ranges almost entirely and that they tend towards the 90's and 100's with some students even going beyond I.Q. 110 and up as high as I.Q. 140.

7. Freedom from fear is an essential condition for learning. This and other freedoms in Workshop Way classrooms are necessary for children if they are to develop their human faculties to their greatest potential. The California Personality Test results reveal that the Workshop Way does not put all pupils in the same mold. They come out individually free to be themselves and to accept the responsibility of making independent decisions.

RECOMMENDATIONS

The author suggests further Workshop Way research in two areas:

1. Curriculum Development that would incorporate the psychology of Workshop Way techniques and the capitalization on the best use of the time factor in the classroom.

2. Teacher Training that would give our schools courageous and dedicated teachers who would be ready to sacrifice personal comfort to conditions favorable for effective teaching and learning. Noise and movement are accepted in many facets of life constituting "progress" of man in his physical world. It is time that noise and movement to some degree become part of the "progress" of mankind in his own personal development.*

*Eighty slides on the Workshop Way system of education and a tape have been submitted to: National Audiovisual Center Director, Mr. James Gipson
General Services Administration
Washington, D.C. 20408

Appendix A OBSERVATION FORM

Place

Time

Date

Child's Name

Behavior of child: Includes sayings as well as accompanying voice quality and facial expressions.					
Mood Clues: Posture Gestures Facial Expressions					
Sequence of behavior during the hour: Classwork Desk Work Other activities					
Others: Extraordinary responses in particular situations					

APPENDIX B
PERSONAL - SOCIAL ADJUSTMENT TAXONOMY
FOR CLASSIFYING PUPILS' BEHAVIOR WITH
CONVERSION TABLE

Personal Adjustment Sections	Rating Points			
	VERY FREQUENT	FREQUENT	OCCASIONALLY	RARELY
A. SELF RELIANCE				
Items:				
1. Takes care of needs independently.	4	3	2	1
2. Makes decisions about the activities in which he is engaged.	4	3	2	1
3. Does his own work.	4	3	2	1
4. Begins work independently.	4	3	2	1
B. PERSONAL WORTH				
Items:				
1. Shows desire to work on a new task. (by volunteering or facial expression)	4	3	2	1
2. Shows delight in own achievement.	4	3	2	1
3. Shows enthusiasm in doing school work.	4	3	2	1
4. Is unconcerned about school work.	1	2	3	4
C. SELF DISCIPLINE				
Items:				
1. Is easily disturbed by others.	1	2	3	4
2. Controls temper when faced with a situation he cannot control.	4	3	2	1
3. Gets angry when stopped from doing things.	1	2	3	4
4. Is willing to do the necessary steps needed to obtain a deserved goal.	4	3	2	1
5. Uses time for a definite purpose.	4	3	2	1
6. Does his work to the best of his ability.	4	3	2	1
D. FEELING OF BELONGING				
Items:				
1. Enjoys the company of others.	4	3	2	1
2. Is hyper-sensitive: feelings are easily hurt.	1	2	3	4
E. WITHDRAWING TENDENCIES				
Items:				
1. Is inattentive.	1	2	3	4
2. Daydreams.	1	2	3	4
3. Stays to himself.	1	2	3	4

F. NERVOUS HABITS

Items:					
1.	Displays physical symptoms of nervousness.	1	2	3	4
2.	Is restless.	1	2	3	4
3.	Is hyper-active.	1	2	3	4
4.	Fatigues easily.	1	2	3	4
5.	Cries easily.	1	2	3	4
6.	Is lifeless.	1	2	3	4

Social Adjustment

G. SOCIAL STANDARDS

Items:					
1.	Assumes his share of work.	4	3	2	1
2.	Respects the rights of others.	4	3	2	1
3.	Respects the property of others.	4	3	2	1
4.	Follows directions.	4	3	2	1

H. SOCIAL SKILLS

Items:					
1.	Shares with others.	4	3	2	1
2.	Makes friends easily.	4	3	2	1
3.	Works well with group.	4	3	2	1

I. ANTI-SOCIAL BEHAVIOR

Items:					
1.	Is irritable.	1	2	3	4
2.	Is hostile towards authority.	1	2	3	4
3.	Is hostile towards others.	1	2	3	4
4.	Fights.	1	2	3	4
5.	Tells lies.	1	2	3	4
6.	Is revengeful.	1	2	3	4
7.	Is demanding.	1	2	3	4
8.	Is selfish.	1	2	3	4
9.	Does things that disturbs class.	1	2	3	4
10.	Is suspicious of others.	1	2	3	4

J. SOCIAL RELATIONS

Items:					
1.	Is shy or embarressed by doing or saying things in front of class.	1	2	3	4
2.	Stays in background.	1	2	3	4
3.	Says pleasant things to other children.	4	3	2	1
4.	Does pleasant things for others.	4	3	2	1
5.	Shows concern for others.	4	3	2	1

DESCRIPTION OF TAXONOMY

The components of personal-social adjustments form the various titles of the sections of the taxonomy. The components that form these sections are the same as the components used in developing the California Test of Personality, Forms AA and BB[1] excepting in three instances. In these cases two of the components (Family Relations

[1]Thorpe, Clark and Tiego, Manual, California Test of Personality (California: McGraw-Hill Book Co., 1953) pp. 3 and 4.

and Community Relations) were not suited to the needs of this test. The third component (Personal Freedom) was eliminated because it could not be readily seen in the overt behavior of children and the component SELF-DISCIPLINE was substituted instead. Items desired under each section were drawn from a variety of sources, in keeping with the description given for each component for the California Test of Personality.[2] (See Bibliography.)

[2] Ibid.

APPENDIX C SAMPLE RECORD SHEET (For number of times behavior occurred)

Child's Name

ITEMS (Base Behavior)	OBSERVATION PERIODS																									Classification
	1	2	3	4	Total	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Total	
A: 1.																										
2.																										
3.																										
4.																										
B: 1.																										
2.																										
3.																										
4.																										
C: 1.																										
2.																										
3.																										
4.																										
5.																										
6.																										
D: 1.																										
2.																										
E: 1.																										
2.																										
3.																										
F: 1.																										
2.																										
3.																										
G: 1.																										
2.																										
3.																										
4.																										

(The remaining sections would be tabulated on a similar sheet.)

APPENDIX D SAMPLE RECORD SHEET * FOR TOTAL NUMBER OF POINTS FOR EACH SECTION AND FOR TOTAL POINTS FOR ALL SECTIONS

Child's Name May, 1970

ITEMS	CLASSIFICATION	NUMBER OF POINTS	ITEMS	CLASSIFICATION	NO. OF POINTS
A: 1.			G: 1.		
2.			2.		
3.			3.		
4.			4.		
	TOTAL:		TOTAL:		
B: 1.			H: 1.		
2.			2.		
3.			3.		
4.			TOTAL:		
	TOTAL:		I: 1.		
C: 1.			2.		
2.			3.		
3.			4.		
4.			5.		
5.			6.		
6.			7.		
	TOTAL:		8.		
D: 1.			9.		
2.			10.		
	TOTAL:		TOTAL:		
E: 1.			J: 1.		
2.			2.		
3.			3.		
	TOTAL:		4.		
F: 1.			5.		
2.			TOTAL:		
3.					
4.					
5.					
6.					
	TOTAL:		TOTAL OF A THROUGH J:		

* Not used, since taxonomy for A-J was rejected by statistician at our first meeting.

APPENDIX E

On the following pages headings will not be spelled out but will be recognized by the following initials:

Word Meaning - W; Paragraph meaning - P; Science and Social Studies - S; Spelling - Sp; Word Study - W St; Language - L; Arithmetic Computation - AC; Arithmetic Application - AAp; Social Studies - SS; Science - Sc; Total Reading - TR; Total Arithmetic - TA; Arithmetic Concepts - ACo.

Grade 4
St. Edward's School
New Iberia, La.

Stanford Achievement Test Results
Top row = 1968-69, Primary Battery Form X March
Bottom = 1969-70, Intermediate Battery I Form X - March

Grade Equivalents

	W	P	S	Sp	WSt	L	AC	ACo	AAp	SS	Sc	TR	TA
1.	2.0	2.6	2.4	1.9	1.5	2.6	2.9	2.4	---	---	---	2.5	2.7
	4.6	4.3	---	4.3	3.6	3.7	4.6	3.9	3.9	4.4	3.7	4.4	4.3
2.	3.6	3.6	2.2	4.8	2.0	2.8	3.0	4.2	---	---	---	3.6	3.5
	5.7	5.0	---	5.8	4.4	5.6	6.4	4.7	4.9	4.6	4.2	5.3	5.4
3.	1.8	2.0	3.0	1.7	2.5	2.1	2.8	2.0	---	---	---	2.0	2.6
	4.2	3.9	---	3.1	2.2	3.1	4.3	4.3	3.8	4.3	2.7	4.0	4.0
4.	2.5	2.9	4.0	1.8	2.0	3.0	3.4	2.2	---	---	---	2.8	3.1
	4.6	4.5	---	3.8	2.7	3.2	4.5	3.2	3.5	4.1	3.9	4.5	3.9
5.	2.7	1.7	1.5	2.3	2.7	2.6	1.7	1.9	---	---	---	2.0	1.8
	4.4	4.3	---	3.6	4.2	3.1	3.6	3.9	3.6	3.8	3.1	4.3	3.7
6.	3.0	2.7	1.6	3.9	2.1	3.4	2.6	2.8	---	---	---	2.8	2.6
	5.1	4.6	5.3	5.3	4.2	5.1	5.3	4.6	4.0	4.6	3.5	4.8	4.7
7.	2.5	3.3	2.2	3.0	1.7	2.8	2.5	2.6	---	---	---	2.9	2.5
	4.7	4.4	---	4.5	3.1	3.5	4.4	2.5	3.4	5.0	3.6	4.6	3.7
8.	1.9	1.9	1.6	2.3	1.8	1.9	2.6	2.4	---	---	---	1.9	2.5
	3.1	3.6	---	4.0	3.1	3.0	4.1	4.3	3.9	4.3	3.3	3.3	4.0
9.	2.0	2.9	2.2	2.5	2.0	3.1	2.1	2.3	---	---	---	2.6	2.2
	5.4	4.3	---	4.3	5.0	4.9	5.4	5.2	4.9	4.6	3.6	4.8	5.2
10.	3.3	2.7	3.3	3.8	1.9	3.7	2.8	2.8	---	---	---	2.9	2.8
	6.2	4.3	---	4.6	5.0	4.4	4.5	4.3	4.9	4.6	4.7	5.2	4.6
11.	2.3	2.4	2.0	2.2	2.2	2.5	1.9	1.6	---	---	---	2.4	1.5
	3.9	4.4	---	3.2	2.5	3.7	4.4	3.6	4.2	3.9	3.7	4.2	4.2
12.	4.2	3.5	3.1	3.5	2.6	3.3	1.9	2.6	---	---	---	3.7	2.3
	7.8	5.3	---	7.6	6.2	4.3	4.6	3.6	3.6	5.2	5.2	6.1	4.0
13.	2.7	2.9	2.0	3.1	2.0	2.2	2.7	2.7	---	---	---	2.8	2.7
	5.2	4.2	---	3.8	3.0	3.3	4.6	3.6	4.4	4.6	3.6	4.7	4.3
14.	2.9	3.0	1.8	2.4	1.8	3.4	2.9	3.4	---	---	---	2.9	3.1
	5.1	5.3	---	6.0	5.2	4.3	5.3	2.9	3.2	5.6	4.5	5.2	4.2
15.	2.0	2.0	2.7	2.8	1.6	2.2	1.8	1.7	---	---	---	2.0	1.8
	4.6	3.7	---	4.4	3.7	2.6	3.7	3.3	4.1	3.9	3.4	4.0	3.8

	W	P	S	Sp	WSt	L	AC	ACo	AAp	SS	Sc	TR	TA
16.	2.7	3.4	2.9	2.3	2.4	2.1	3.8	4.4	---	---	---	3.0	4.0
	4.7	4.2	---	4.0	5.2	4.8	7.7	6.1	5.3	4.7	4.4	4.4	6.7
17.	1.8	2.5	2.9	3.2	1.7	3.1	2.6	2.1	---	---	---	2.2	2.5
	3.6	3.4	---	5.2	2.9	3.8	6.0	4.5	4.1	4.6	3.8	4.0	5.0
18.	3.0	2.4	2.6	2.2	2.1	2.5	1.9	2.6	---	---	---	2.6	2.3
	4.0	3.6	---	3.5	2.7	2.5	1.9	4.1	3.4	4.3	3.3	3.8	3.6
19.	2.9	3.3	2.0	4.2	2.7	3.7	2.6	2.7	---	---	---	3.1	2.7
	5.9	5.5	---	6.0	5.8	5.4	6.2	4.2	5.2	4.6	4.3	5.8	5.3
20.	2.9	2.7	3.1	2.8	2.0	2.5	3.6	2.7	---	---	---	2.8	3.2
	4.7	4.7	---	4.5	4.4	4.1	5.7	5.4	4.0	5.6	4.7	4.7	5.0
21.	2.5	2.9	1.8	2.4	1.8	3.4	2.3	3.1	---	---	---	2.7	2.7
	4.7	4.0	---	4.3	2.6	3.3	4.4	3.6	4.4	3.7	4.1	4.3	4.1
22.	3.2	3.1	2.6	2.9	3.3	4.8	2.5	2.6	---	---	---	3.1	2.5
	5.2	5.3	---	4.8	5.0	5.2	4.4	4.5	4.5	5.6	4.3	5.3	4.5
23.	2.1	2.9	3.1	3.1	1.6	1.9	1.9	2.0	---	---	---	2.6	1.8
	3.7	3.9	---	3.8	1.9	1.9	3.7	2.3	3.6	3.1	3.4	3.9	3.3
24.	1.7	1.6	2.0	2.0	1.6	2.4	2.4	2.5	---	---	---	1.7	2.5
	3.2	3.9	---	3.6	2.8	3.2	3.7	3.6	3.6	3.8	3.6	3.7	3.7
25.	1.9	2.5	1.8	3.5	2.0	2.5	2.6	1.7	---	---	---	2.3	2.3
	4.7	4.1	---	4.9	3.7	3.7	5.2	3.7	3.8	5.0	3.4	4.3	4.3
26.	2.6	2.6	2.0	---	1.8	2.5	---	1.9	---	---	---	2.6	---
	3.3	3.4	---	3.4	2.8	3.8	4.4	4.1	2.7	3.8	3.6	3.3	3.8
27.	2.8	2.9	2.5	2.4	2.3	2.5	2.9	2.6	---	---	---	2.9	2.8
	5.1	4.7	---	3.4	4.6	4.8	2.9	3.3	4.3	3.4	4.3	4.3	4.0
28.	2.7	2.9	3.1	3.4	1.5	2.2	2.0	2.4	---	---	---	2.9	2.3
	4.9	4.3	---	3.5	3.6	4.1	2.9	3.4	4.5	3.6	3.6	4.7	3.7
29.	2.7	3.0	2.6	2.8	2.9	3.2	1.9	---	---	---	---	2.9	---
	5.2	4.9	---	5.6	4.5	4.3	5.6	---	4.2	4.3	4.1	5.0	4.8

(112)

St. Elizabeth Grammar School
Chicago, Illinois
Grade Three
Inner-City
Mrs. Odessa Spann - Teacher

Workshop Way
Norm 2.6 (2)
Norm 3.6 (3)

Stanford Achievement Test
Form X, Primary II Battery
Grade 2 - 1969, March
Grade 3 - 1970, March
Elementary I Battery

Grade Equivalents

	W	P	SS	Sp	WSt	L	AC	ACo	Battery Median
1.	1.3	1.3	1.7	2.0	2.4	1.8	1.8	1.4	1.8
	4.7	2.9	2.9	3.7	1.8	2.7	2.9	3.6	3.3
2.	1.8	1.4	2.6	1.7	1.3	1.9	2.5	1.6	1.7
	3.2	3.8	3.5	2.3	2.3	2.8	3.7	3.2	3.5
3.	Not taken								
	5.4	3.2	3.8	3.5	4.5	2.8	2.1	2.2	3.8
4.	1.9	2.2	1.7	ab.	1.2	2.2	1.9	2.0	1.9
	2.5	2.9	3.8	3.1	2.6	3.2	3.6	2.6	3.4
5.	0.6	1.0	2.6	1.3	1.6	2.0	3.0	1.6	1.6
	3.5	2.7	3.8	3.8	3.7	3.1	3.6	3.6	3.3
6.	1.8	1.9	1.7	2.6	2.4	2.3	2.7	2.5	2.3
	2.8	3.9	4.6	3.9	2.2	2.8	3.6	3.1	3.7
7.	New Pupil								
	4.7	2.9	3.8	3.4	3.2	3.1	2.6	4.0	3.6
8.	1.8	1.8	1.4	ab.	1.2	1.7	1.6	1.2	1.6
	2.8	2.0	2.6	2.8	2.4	2.7	3.6	2.7	2.8
9.	1.8	1.7	1.7	1.3	1.6	2.2	2.1	2.5	1.7
	3.7	2.9	ab.	3.0	2.4	2.5	3.7	4.2	3.3
10.	2.6	1.9	4.8	2.9	2.7	2.8	2.7	2.8	2.7
	4.7	3.4	5.1	3.5	3.0	3.4	4.0	4.0	4.0
11.	2.5	1.4	2.0	2.2	1.8	2.0	2.7	1.7	2.0
	6.9	3.1	2.9	3.4	3.2	2.8	3.8	2.7	4.9
12.	2.7	1.9	2.2	1.5	1.3	1.6	1.8	2.5	1.8
	4.7	3.6	3.6	3.9	3.5	2.8	3.6	4.7	3.5
13.	2.1	2.4	2.7	2.6	1.6	1.7	1.9	1.4	2.0
	5.4	2.9	3.3	3.6	2.9	2.9	3.9	2.7	4.0
14.	2.0	2.1	1.4	2.0	1.6	2.0	1.8	1.5	1.8
	3.5	2.8	3.1	3.1	1.8	3.0	3.6	3.2	2.8
15.	2.1	1.9	4.3	3.3	2.2	3.3	2.1	2.7	2.4
	6.4	2.7	2.7	4.4	2.6	3.0	3.8	3.0	4.5
16.	2.5	2.5	1.7	3.4	1.6	2.0	2.8	2.3	2.4
	5.4	4.0	4.0	4.6	2.5	3.9	3.7	4.3	4.0
17.	0.6	0.6	ab.	ab.	2.4	2.3	2.5	1.3	1.8
	3.6	1.9	3.8	1.9	2.3	2.6	3.7	2.8	2.8
18.	1.5	1.8	2.4	2.0	1.6	2.1	1.8	1.6	1.8
	5.4	2.9	3.6	3.3	2.4	3.5	3.9	3.2	3.9
19.	1.9	1.9	2.4	2.0	2.0	1.9	2.4	2.0	2.0
	5.7	3.2	4.0	3.4	2.9	3.4	4.1	3.0	4.3
20.	2.0	1.5	2.0	1.6	2.5	1.9	1.6	1.9	1.9
	3.0	2.9	2.9	1.8	3.0	2.8	2.8	2.8	3.3

Note: Where the Workshop Way is used without the Workshop Way Phonics Activities, Word Study and Language results are not outstanding.

	W	P	SS	Sp	WSt	L	AC	Aco	Battery Median
21.	New Pupil								
	5.4	2.6	3.3	3.1	3.0	3.4	3.5	3.6	4.0
22.	New Pupil								
	6.4	3.5	3.6	5.2	2.8	4.4	5.6	4.0	5.0
23.	1.6	1.7	1.7	ab.	1.4	1.6	ab.	1.5	1.5
	2.8	2.1	2.6	1.5	2.0	2.4	2.2	2.6	2.7
24.	2.1	1.2	3.1	ab.	1.3	1.4	1.3	1.2	1.3
	1.7	2.3	2.7	1.5	1.7	2.3	2.9	2.7	2.2
	Beginning with #25, progress is not exceptional except that there is progress for slower learners rather than regression.								
25.	1.8	1.8	1.5	1.3	1.9	ab.	ab.	1.6	1.7
	2.9	2.1	2.0	1.5	1.8	2.6	2.6	2.7	2.2
26.	New Pupil								
	3.0	2.1	2.9	1.9	1.6	2.0	2.4	2.0	2.3
27.	2.1	2.0	3.9	3.2	2.4	2.3	2.0	2.5	2.8
	4.0	3.0	3.3	3.4	2.5	1.6	3.4	3.3	2.6
28.	1.8	1.9	2.6	2.5	2.4	2.8	2.7	2.4	2.4
	2.0	2.9	3.3	3.6	2.9	2.8	2.6	2.7	2.8
29.	2.0	1.9	2.7	ab.	1.4	2.1	1.3	1.2	1.6
	3.8	2.6	4.3	2.4	1.8	3.2	1.9	2.5	2.1
30.	1.2	2.1	3.1	2.3	1.7	2.2	2.8	2.5	2.2
	3.5	3.2	3.1	3.0	2.0	2.8	3.0	3.1	2.5
31.	1.7	1.2	1.3	ab.	1.1	1.0	1.9	1.6	1.5
	2.5	2.9	2.6	2.5	1.6	3.1	3.7	2.7	2.1
32.	New Pupil								
	2.9	1.9	2.0	2.8	2.2	2.5	2.6	2.6	2.4
33.	1.9	1.8	3.1	1.9	2.8	2.8	2.9	2.2	2.5
	3.6	2.7	2.0	2.6	2.4	3.4	3.3	3.0	2.8
34.	2.1	2.1	3.6	2.5	ab.	1.9	2.3	2.0	2.9
	3.1	2.4	1.6	3.5	2.1	2.9	3.3	2.5	2.8
35.	1.7	2.4	4.8	2.0	2.6	3.2	2.8	2.5	2.5
	3.3	2.4	3.6	2.3	2.8	2.7	3.2	2.5	2.9

APPENDIX F

Code Sheet - PROJECT: The Measurement and Evaluation of the Mental, Academic and Personal-Social Development of Primary Students in Workshop Way Classrooms and in Non-Workshop Classrooms.

Xavier University - Director: Miss Josepha Martinez
Author of Workshop Way - Sr. Grace Pilon

3, 4, 5	Identification number of student
6	Blank
7	Sex: 1 = Male 2 = Female
8, 9, 10	Chronological Age (exact age in months) as of Oct. 1, 1969
11	Ethnic Group 1 = Afro-American 2 = Spanish American 3 = White but not Spanish American
12	Percentage of Attendance: 1 = 95% to 100% 2 = 90% to 94% 3 = 85% to 89% 4 = 80% to 84% 5 = 75% to 79% 6 = 70% to 74% 7 = 65% to 69% 8 = 60% to 64% 9 = 59% and Less than 59%
13	Number to identify teachers: 1 = Partial Workshop Way, Grade One 2 = Control, Grade One 3 = Experimental, Grade One 4 = Experimental, Grade Two 5 = Control, Grade Two
14	Grade - 1 = Grade One 2 = Grade Two, both classes having had Workshop Way in Grade One.
15, 16, 17	Mental Age in months PRE-TEST First grade derived from Pintner-Cunningham General Ability Test, Form A and Second grade derived from Otis-Lennon Mental Ability Test, Form J
18, 19, 20	IQ as derived in October, 1969 for Grade One - as derived in December, 1969 for Grade Two
21	Economic Status: 1 = Either parent has a profession. 2 = Neither parent is professional but one of the parents is semi-skilled (has a trade). 3 = Either parent, if not in category above, is an unskilled laborer. 4 = Unemployed, both parents - on welfare 5 = Unemployed, both parents - not on welfare 6 = Veteran's Disability Compensation 7 = Any other category

22 How many parents: 1 = Both
2 = Mother only
3 = Father only
4 = Guardian

23, 24, 25 Chronological Age as of May 1, 1970- added 7 months of age as of October 1, 1969.

26, 27, 28 Mental Age derived from POST-TESTS - Form B Grade One and Form K Grade Two.

29, 30, 31 IQ as derived in May, 1970 from above tests

32 School Experience before admission into class in Sept. 1969.
1 = None
2 = Completed first grade successfully
3 = More than one year in first grade

33 Type of Housing: 1 = Project
2 = Non-project

34 Type of Classroom: 1 = Workshop Way First Grade with all the elements of the system being used.
2 = Partial Workshop Way First Grade
3 = Non-workshop First Grade
4 = Second Grade Workshop Way
5 = Second Grade Non-workshop classroom

PRE-TEST

35, 36 Part I - exact raw score PINTNER-CUNNINGHAM GENERAL ABILITY, Form A Common Observance

37 Part 2 - Aesthetic Difference

38 Part 3 - Associated Objects

39 - Part 4 - Discrimination of Size

40, 41 Part 5 - Picture Parts

42, 43 Part 6 - Picture Completion

44 Part 7 - Dot Drawing

45, 46 Total Raw Score PC PRE-TEST

POST-TEST

47, 48 Part 1 - Exact raw score PC POST-TEST, Form B Common Observances

49 Part 2 - Aesthetic Difference

50 Part 3 - Associated Objects

51 Part 4 - Discrimination of Size

52, 53 Part 5 - Picture Parts

54, 55 Part 6 - Picture Completion

56 Part 7 - Dot Drawing

57, 58 Total Raw Score PC POST-TEST

PRE-TEST

59, 60 Total Raw Score Metropolitan Readiness Test PRE-TEST
If pupil did not take test = 9
Pre-test for Academic Measurement.

61 Over-All letter Grade: 1 = A = Superior
2 = B = High Normal
3 = C = Average
4 = D = Low Normal
5 = E = Low (Poor Risk)
9 = None Available

POST-TEST

62, 63	Test 1 - Word Knowledge METROPOLITAN ACHIEVEMENT TEST Primary I Battery, Form A POST-TEST Post-test for academic measurement
64, 65	Test 2 - Word Discrimination
66, 67	Test 3 - Reading Sentences
68, 69	Test 4 - Arithmetic Concepts and Skills
70, 71, 72	Total Raw Score Metropolitan Achievement Test POST-TEST

PRE-TEST

73	Section A - CALIFORNIA PERSONALITY TEST, Form AA PRE-TEST Part I Self-Reliance
74	Section B - Sense of Personal Worth
75	Section C - Sense of Personal Freedom
76	Section D - Feeling of Belonging
77	Section E - Withdrawing Tendencies
78	Section F - Nervous Symptoms
79, 80	Total Personality Adjustment Raw Score CPT

1 & 2 Placements - IQ Groupings (from last-extra-deck)

Dect 2

3, 4, 5	Identification number of student
6	(1) First follow-up card for this child
7	Section A - Social Standards Part II CPT
8	Section B - Social Skills
9	Section C - Antisocial Tendencies
10	Section E - School Relations
11, 12	Total Social Adjustment raw score
13, 14	Total Adjustment raw score

POST-TEST

15	Section A - CPT Form BB POST-TEST Part I - Self-Reliance
16	Section B - Sense of Personal Worth
17	Section C - Sense of Personal Freedom
18	Section D - Feeling of Belonging
19	Section E - Withdrawing Tendencies
20	Section F - Nervous Symptoms
21, 22	Total Personality Adjustment CPT
23	Section A - Social Standards - Part II CPT POST-TEST
24	Section B - Social Skills
25	Section C - Antisocial Tendencies
26	Section E - School Relations
27, 28	Total Social Adjustment CPT POST-TEST
29, 30	Total Adjustment CPT POST-TEST

PRE-TEST

31, 32	Part One - OTIS-LENNON MENTAL ABILITY TEST, Form J PRE-TEST
33, 34	Part Two
35, 36	Part Three
37, 38	Total Raw Score O-L MAT

POST-TEST

39, 40	Part One O-L POST-TEST Form K
41, 42	Part Two
43, 44	Part Three
45, 46	Total Raw Score O-L MAT POST-TEST

PRE-TEST

47, 48	Test 1- Word Meaning STANFORD ACHIEVEMENT TEST Primary I Battery PRE-TEST Form X
49, 50	Test 2 - Paragraph Meaning
51, 52	Test 3 - Vocabulary
53, 54	Test 4 - Spelling
55, 56	Test 5 - Word Study Skills
57, 58	Test 6 - Arithmetic
59, 60, 61	Stanford Achievement Test Battery I Primary, Form X Total Raw Score

POST-TEST

62, 63	Test 1 - SAT Primary II Battery POST-TEST - Word Meaning
64, 65	Test 2 - Paragraph Meaning
66, 67	Test 3 - Science and Social Studies Concepts
68, 69	Test 4 - Spelling
70, 71	Test 5 - Word Study Skills
72, 73	Test 6 - Language
74, 75	Test 7 - Arithmetic Computation
76, 77	Test 8 - Arithmetic Concepts
78, 79, 80	SAT Primary II Battery, Form X Total Raw Score

Behavior Traits as Observed in the Classrooms by Josepha Martinez and Diana Jones.

Since the behavior recorded was so clearly visible and the observation charts of both observers were similar, there is only one recording for all observations.

The original plan called for twenty hours of observations for each child. This was not possible because of unforeseen events, bad weather conditions, and childhood illnesses which caused absences of the matched pairs. The traits marked were taken from ten observations. The five EARLY OBSERVATIONS were made from November through February. The five LATER OBSERVATIONS were made from March through May.

Matched pairs are:

	137 - 129	127 - 141
	133 - 125	130 - 140
	135 - 126	139 - 134
	132 - 136	143 - 131
*128 - 131		
138 - 141		
142 - 134		

*Rejected matched pairs because 128, 138, and 142 were white while their partners were black.

Dect 3

EARLY OBSERVATIONS

3, 4, 5 Identification

6 (2) Means that a second follow-up card will be coming for this student.

SELF-RELIANCE

7 Acts with initiative. (1)

8, 9 Does his work as a result of personal commands or advice from an adult during the period that he is not being instructed. (2)

10,11 Responds to directions in a non-verbal manner immediately after directions are given. (3)

12 Follows directions in a non-verbal manner but not immediately after directions are given. (4)

13 Does not follow directions. (5)

14, 15 Gets materials in room independently. (6)

PERSONAL WORTH

16 Shows delight in own achievement by facial expression. (7)

17 Shows delight in own achievement by showing it to someone in class. (8)

18 Taps another or receives taps from others in a friendly manner. (9)

19, 20 Takes active part in school work by volunteering to participate in activities and responding verbally or by raising hand to answer questions. (10)

21 Laughs at jokes or at any funny situation. (11)

22 Shows interest by doing work in an absorbed manner. (12)

23 Does work while leaning on arm or head on desk. (13)

24, 25 Does not take an active part in activities, is silent or confused during lesson or when asked a question. (14)

26, 27 Paying attention as meaning "looking at the teacher, the board, or other speakers." (15)

PERSONAL FREEDOM AND SELF-DISCIPLINE

28, 29 Says things in a free or uninhibited manner. (16)

30 Talks about work with others. (17)

31 Asks for help from others. (18)

32, 33 Works continually at a task. (19)

34, 35 Changes work place or position. (20)

36, 37 Follows lesson with eyes by looking at books or papers designated in the lesson. (21)

38, 39 Stops work to look around the room. (22)

40, 41 Stops work to watch other persons or things in the room. (23)

FEELING OF BELONGING

42, 43 Stops and talks to others in classroom without physically or verbally showing anger or disapproval. (24)

44 Goes and talks with others. (25)
45, 46 Does work with others or does things with peers in a pleasant manner. (26)
47 Talks while continuing to work. (27)

WITHDRAWING TENDENCIES

48, 49 Plays with objects or does things not pertaining to school work. (28)
50, 51 Stares into space. (29)
52 Talks to self. (30)

PHYSICAL HABITS

53 Bites nails. (31)
54 Plays with hands. (32)
55 Puts feet on desk or chair. (33)
56 Yawns. (34)
57 Stretches. (35)
58 Puts head on desk without working. (36)
59 Blinks or rubs eyes. (37)
60 Moves around the room seemingly without a purpose. (38)
61 Dances. (39)
62 Makes faces. (40)
63 Puts pencil in mouth. (41)
64 Leans head on arms. (42)
65 Crawls on floor. (43)
66 Eats. (44)
67 Plays with clothes. (45)
68 Sits in odd ways and keeps changing posture. (46)
69 Touches parts of the body. (47)

SOCIAL STANDARDS

70, 71 Goes directly to work position or from work position to destination without stopping. (48)
72 Shares materials with others. (49)
73 Plays with others during work time in class. (50)
74 Smiles. (51)
75 Talks to others while lessons are being held. (52)

SOCIAL SKILLS

76 Speaks or acts to show that he cares about the rights of others. (53)
77 Stops his task to help another person pleasantly. (54)
78 Cooperates with help from others. (55)
79 Talks to others in a fussy or commanding manner or with a frown on the face. (56)
80 Listens to peers. (57)

Dect 4

3, 4, 5 Identification

6 (3) Third follow-up card is coming up for this student.

ANTI-SOCIAL

7 Refuses to cooperate. (58)

8 Hits or kicks - child provoked. (59)

9 Hits or kicks - peer provoked. (60)

10 Cries. (61)

11 Does things that disturb the whole class - classmates. (62)

12 Frowns. (63)

13 Tattles. (64)

14 Shows anger at assignment or materials in environment through facial expression. (65)

LATER OBSERVATIONS - SELF-RELIANCE

15, 16 Acts with initiative. (1)

17, 18 Does his work as a result of personal commands or advice from an adult during the period that he is not being instructed. (2)

19, 20 Responds to directions in a non-verbal manner immediately after directions are given. (3)

21 Follows directions in a non-verbal manner but not immediately after directions are given. (4)

22 Does not follow directions. (5)

23, 24 Gets materials in room independently. (6)

PERSONAL WORTH

25 Shows delight in own achievement by facial expression. (7)

26 Shows delight in own achievement by showing it to someone in class. (8)

27 Taps another or receives taps from others in a friendly manner. (9)

28, 29 Takes active part in school work by volunteering to participate in activities and responding verbally or by raising hand to answer questions. (10)

30 Laughs at jokes or at any funny situation. (11)

31 Shows interest by doing work in an absorbed manner. (12)

32 Does work while leaning on arm or head on desk. (13)

33 Does not take an active part in activities, is silent or confused during lesson or when asked a question. (14)

34, 35 Paying attention as meaning "looking at the teacher, the board, or other speakers." (15)

36, 37 Says things in a free or uninhibited manner. (16)

38 Talks about work with others. (17)

39 Asks for help from others. (18)

40, 41 Works continually at a task. (19)

42, 43 Changes work place or position. (20)
44, 45 Follows lesson with eyes by looking at books or papers designated in the lesson. (21)
46, 47 Stops work to look around the room. (22)
48, 49 Stops work to watch other persons or things in the room. (23)

FEELING OF BELONGING

50, 51 Stops and talks to others in classroom without physically or verbally showing anger or disapproval. (24)
52 Goes and talks with others. (25)
53 Does work with others or does things with peers in a pleasant manner. (26)
54 Talks while continuing to work. (27)

WITHDRAWING TENDENCIES

55, 56 Plays with objects or does things not pertaining to school work. (28)
57 Stares into space. (29)
58 Talks to self. (30)

PHYSICAL HABITS

59 Bites nails. (31)
60 Plays with hands. (32)
61 Puts feet on desk or chair. (33)
62 Yawns. (34)
63 Stretches. (35)
64 Puts head on desk without working. (36)
65 Blinks or rubs eyes. (37)
66 Moves around the room seemingly without a purpose. (38)
67 Dances. (39)
68 Makes faces. (40)
69 Puts pencil in mouth. (41)
70 Leans head on arms. (42)
71 Crawls on floor. (43)
72 Eats. (44)
73 Plays with clothes. (45)
74 Sits in odd ways and keeps changing posture. (46)
75 Touches parts of the body. (47)

SOCIAL STANDARDS

76, 77 Goes directly to work position or from work position to destination without stopping. (48)
78 Shares materials with others. (49)
79 Plays with others during work time in class. (50)
80 Smiles (51)

(122) Code Sheet - Workshop Way

Dect 5

3, 4, 5 Identification
6 (4) Fourth follow-up card coming up for this student.
7 Talks to others while lessons are being held. (52)

SOCIAL SKILLS

8 Speaks or acts to show that he cares about the rights of others. (53)
9 Stops his task to help another person pleasantly. (54)
10 Cooperates with help from others. (55)
11 Talks to others in a fussy or commanding manner or with a frown on the face. (56)
12 Listens to peers. (57)
13 Refuses to cooperate. (58)
14 Hits or kicks - child provoked. (59)
15 Hits or kicks - peer provoked. (60)
16 Cries. (61)
17 Does things that disturb the whole class - classmates. (62)
18 Frowns. (63)
19 Tattles. (64)
20 Shows anger at assignment or materials in environment through facial expression. (65)

When the assistant director became responsible to complete the research program because the director had to withdraw, she failed to understand how the behavior traits as listed could be used in the categories given for purposes of comparing behavior in Workshop Way classrooms with that in the non-workshop control classrooms. She also realized that our sample of behavior traits was insufficient in that the number of hours the pupils were observed were not at the same hour in the day.

However, the author believes there may be sufficient value in the observations to warrant further investigation of the Workshop Way system of education if the behavior traits are grouped as follows:

Type 1. Behavior traits that would have high value in any system of education and that would be able to be operative in any system: Traits numbered 1, 7, 8, 11, 12, 16, 19, 49, 51, 53, and 54.

Type 2. Behavior traits that would have low value in any system of education and that would be able to be operative in any system: Traits numbered 4, 5, 28, 50, 52, 58, and 62.

Type 3. Behavior traits indicative of one or the other of the following undesirable human conditions and be able to be seen in any system of education: fatigue, boredom, restlessness, personal suffering. Traits numbered 13, 29, 31, 34, 36, 37, 42, 46. Most of the other traits listed would have different values in different systems. They could not

be seen in control and experimental classrooms alike because they depend upon the type of classroom being teacher-oriented or pupil-oriented. A few other traits were not deemed too important as to whether or not they existed in any system.

Therefore the following traits were set up for the computer in this way:

EARLY OBSERVATIONS

Type 1.

21	Acts with initiative. (1)
22, 23	Shows delight in own achievement by facial expression. (7)
24	Shows delight in own achievement by showing it to someone in class. (8)
25	Laughs at jokes or at any funny situation. (11)
26	Shows interest by doing work in an absorbed manner. (12)
27, 28	Says things in a free or uninhibited manner. (16)
29, 30	Works continually at a task. (19)
31	Shares materials with others. (49)
32	Smiles. (51)
33	Speaks or acts to show that he cares about the rights of others. (53)
34	Stops his task to help another person pleasantly. (54)
35, 36	Total times high rating behavior traits were observed.

Type 2.

37	Follows directions in a non-verbal manner but not immediately after directions are given. (4)
38	Does not follow directions. (5)
39, 40	Plays with objects or does things not pertaining to school work. (28)
41	Plays with others during work time in class. (50)
42	Talks to others while lessons are being held. (52)
43	Refuses to cooperate. (58)
44	Does things that disturb the whole class - classmates. (62)
45, 46	Total for low rating behavior traits.

Type 3.

47	Does work while leaning on arm or head on desk. (13)
48, 49	Stares into space. (29)
50	Bites nails. (31)
51	Yawns. (34)
52	Puts head on desk without working. (36)
53	Blinks or rubs eyes. (37)
54	Leans head on arms. (42)
55	Sits in odd ways and keeps changing posture. (46)
56, 57	Total for Type 3 traits.

LATER OBSERVATIONS

Type 1.

58, 59	Acts with initiative. (1)
60	Shows delight in own achievement by facial expression. (7)
61	Shows delight in own achievement by showing it to someone in class. (8)
62	Laughs at jokes or at any funny situation. (11)
63	Shows interest by doing work in an absorbed manner. (12)
64, 65	Says things in a free or uninhibited manner. (16)
66, 67	Works continually at a task. (19)
68	Shares materials with others. (49)
69	Smiles. (51)
70	Speaks or acts to show that he cares about the rights of others. (53)
71	Stops his task to help another person pleasantly. (54)
72, 73, 74	Total for Type 1.

Type 2.

75	Follows directions in a non-verbal manner but not immediately after directions are given. (4)
76	Does not follow directions. (5)
77, 78	Plays with objects or does things not pertaining to school work. (28)
79	Plays with others during work time in class. (50)
80	Talks to others while lessons are being held. (52)

Dect 6

3, 4, 5	Identification
6	(5) Fifth follow-up card for this student.
7	Refuses to cooperate. (58)
8	Does things that disturb the whole class - classmates. (62)
9, 10	Total for Type 2.

Type 3.

11	Does work while leaning on arm or head on desk. (13)
12	Stares into space. (29)
13	Bites nails. (31)
14	Yawns. (34)
15	Puts head on desk without working. (36)
16	Blinks or rubs eyes. (37)
17	Leans head on arms. (42)
18	Sits in odd ways and keeps changing posture. (46)
19, 20	Total for Type 3.

Total times trait was marked in ten observations.

21, 22, 23 Type 1. Behavior traits that would have high value in any system of education and that would be able to be operative in any system: Traits numbered, 1, 7, 8, 11, 12, 16, 19, 49, 51, 53, and 54.

24, 25 Type 2. Behavior traits that would have low value in any system of education and that would be able to be operative in any system: Traits numbered 4, 5, 28, 50, 52, 58, and 62.

26, 27 Type 3. Behavior traits indicative of one or the other of the following undesirable human conditions and be able to be seen in any system of education: fatigue, boredom, restlessness, personal suffering. Traits numbered, 13, 29, 31, 34, 35, 37, 42, 46. Most of the other traits listed would have different values in different systems. They could not be seen in control and experimental classrooms alike because they depend upon the type of classroom being teacher-oriented or pupil-oriented. A few other traits were not deemed too important as to whether or not they existed in any system.

Code Sheet #2 - July, 1970 for PROJECT:

The Measurement of Evaluation of the Mental, Academic, and Personal-Social Development of Primary Students in Workshop Way Classrooms and in Non-workshop Classrooms.

Xavier University of Louisiana - Director: Sr. Grace Pilon
7325 Palmetto Street
New Orleans, La. 70125
Dect. 7

3, 4, 5 Identification

6 Blank

7 Number of placement in a specific IQ grouping - according to the October test results - 1969.

1 = IQ above 120
2 = IQ between 110 and 119
3 = IQ between 100 and 109
4 = IQ between 90 and 99
5 = IQ between 80 and 89
6 = IQ between 70 and 79
7 = IQ between 60 and 69
8 = IQ below 60
9 = IQ unknown at this time

8 Number of placement in a specific IQ grouping - according to the May test results, 1970

1 = IQ above 120
2 = IQ between 110 and 119
3 = IQ between 100 and 109
4 = IQ between 90 and 99
5 = IQ between 80 and 89
6 = IQ between 70 and 79
7 = IQ between 60 and 69
8 = IQ below 60
9 = IQ unknown at this time

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