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Learning Through Purposeful Activities In The Lower Grades

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Learning
Through Purposeful Activities
in The Lower Grades

being

A Thesis presented to the Graduate
Faculty of the Fort Hays Kansas State College
in partial fulfillment of the requirements
for the Degree of Master of Science

by

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Date

July 31, 1939

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CHAPTER I

INTRODUCTION

Our times are changing. We are living today in a totally new civilization. It is an order of life utterly unlike that known to man or conceived by him prior to the nineteenth century. On the surface many changes are in progress. During several generations, communication has been growing more rapid and general. Our machine production encroaches more and more upon the domain once held by the individual man's hand and brain. Scrutiny reveals one factor which seemingly explains the modern world and distinguishes it, in an essential degree at least, from any preceding period. This factor is the growth of tested thought, modern science, and its application to the affairs of man, now taught at the lower levels of the elementary school.

The keynote in the new education is experience. The new concept of education aims at the production of individuality through integration of experience. Two of the big aims of the new education are tolerant understanding and creative self-expression. The whole child is being educated.

The new school has a freedom of activity and movement. This produces a much more truly educative absorption. The new education regards the active child as the truly growing child. Not activity

for activity's sake, but activity which is a growing towards something more mature, a changing for the better. There is a greater promise of wide spreading educational achievement for the pupil through this plan of organizing the curriculum around units of pupils' activity.

For some years the writer has been a teacher in the primary grades and through this experience became interested in the value of purposeful activities to the first grade child.

Thus developed the specific problem of this thesis which is to determine whether children of the first grade who have had certain specific activities in connection with their regular school work achieve more and make better progress than children of the same grade who have not had experience in such activities. The particular activities in this experimental investigation were: (a) the "reading library"; (b) the "toy library".

In this study the term "activity" means a unit of work organized around a central idea, thought, or theme that meets the needs and interests of children and seems worth while to them.

The term "reading library" refers to a nook or corner in the first grade room where the children have free access to the books suitable for their age and reading experience.

"Toy library" is a term used to designate a corner of the first grade room where imitative toys (dolls, tea sets, fire engines, tractors, etc.), and puzzle toys are in free access to the children.

In so far as the writer has been able to determine, there is little in the literature of education concerning experimental investigations of the relative worth of a reading library and a toy library in the

first grade. However, in 1935, there appeared in the January number ¹ of the Pictorial Review an article written by Ruth Leigh entitled "A Toy Plan for Children". Miss Leigh attempted to show that toys are tools of growth and should not be used haphazardly.

A study of the activity program in the primary grades was made ² by Mrs. Thelma Wylie Sartain in 1933. Ivah Irene Wilson ³ made a critical analysis of an activity program in 1932 and Nelle C. Morrison ⁴ analyzed the philosophies of some outstanding educators and of outstanding progressive schools, and set up criteria for evaluating the activities.

This thesis is not concerned with all of the activities that should take place in the first grade but rather concerns itself with two specific activities, namely: the Reading Library and the Toy Library, and in view of the fact that many studies have been made in relation to the first grade activities, it is hoped that this study will justify itself.

The investigation took the form of an experiment in which the school year of 1937-1938 was divided into three equal periods of nine weeks each. The experiment proper did not begin until November 8, 1937,

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1. Leigh, Ruth. "A Toy Plan for Children", Pictorial Review, 36:52-3 (Jan., 1935).
 2. Sartain, Mrs. Thelma Wylie. "The Activity Program in the Primary Grades". Master's 1933. South Methodist.
 3. Wilson, Ivah Irene. "A Critical Analysis of an Activity Curriculum". Master's 1932. Hawaii.
 4. Morrison, Nelle C. "Criteria for Selecting and Judging Activities". Master's 1931. T.C. Col. Univ.

the opening of the ninth week of the fall semester, and continued to May 20, 1938.

To make a dependable and trustworthy objective evaluation of an educational activity procedure is usually difficult. This investigation or experiment was no exception to the general rule. Every effort was made to get at the truth, in so far as conditions and circumstances would permit. The measurements were done by means of standard tests, and progress was computed on the basis of the previous test and the test given at the close of each nine weeks period.

In this project thirty pupils of the first grade in the Roosevelt School in Dodge City, Kansas took part. The pupils were given the
5
Pintner-Cunningham Mental Test (see page 97) during the eighth week of school. They were then divided into three groups of nearly equal mentality, namely: Group "A", Group "B", and Group "C".

During the next twenty-seven weeks of school the pupils in Group "A" were permitted the use of the reading library for one-half hour each day, and pupils in Group "B", were given the same length of time each day to play with the toys. The children in Group "C" were used as the control group and were given neither privilege of the Reading Library nor the Toy Library as were Groups "A" and "B".

The twenty-seven weeks in which this experiment was carried on

5. Pintner, Rudolf, and Cunningham, Bess V. Pintner-Cunningham Primary Mental Test. Chicago, World Book Co., 1923.

were divided into three periods, namely: November 8, 1937 to January 17, 1938; January 20, 1938 to March 18, 1938; March 21, 1938 to May 20, 1938. At the close of the first nine weeks period, the Metropolitan Achievement Test⁶, Primary I Battery: Form C (see page 98) was given. At the close of the second nine weeks period, Form B (see page 99) was given, and at the close of the third period, Form A (see page 100) was given. The pupil's scores on these tests were tabulated and compared.

6. Hildreth, Gertrude H. Metropolitan Achievement Tests Primary I Battery. Chicago, World Book Co., 1931.

C H A P T E R II

THE ACTIVITIES USED IN THE EXPERIMENT

"All education is gained through the self-activity or interest¹ of the one to be educated". The child learns to do by doing, for there can be no growth apart from self-activity. The child, through his experiences, activities, and interests, will gain in his ability to grow. The major object of all education is to help the individual to help himself to grow aright.

The first responsibility in the guidance of little children is to supply the right conditions for the expression of their natural interests. It is a wise provision of nature that many of the activities which little children enter into instinctively are the very activities which are most important in educative value.

1. Dewey, John. Interest and Effort in Education. Chicago, Houghton Mifflin Co., 1913. p. 65.

THE READING LIBRARY

The reading library used in this study consisted of table and chairs, to accommodate ten children, and book shelves with a collection of miscellaneous books suitable for four levels of readings: pre-primer, primer, first grade, and second grade. The majority of the books were of primer difficulty, and were entirely different from the books used in the reading classes.

The books children read usually depend upon what is given them, lent them or suggested to them. Children of six and seven years of age continue to enjoy the Mother Goose rhymes and picture books, but their chief interest is in nature stories - little books about the wind, the birds, the animals, the trees, and the flowers. Their background of experience is growing and they like to hear about the life they see about them. The books must be short and profusely illustrated, but rather fanciful.

Children read because of three characteristics of their nature: curiosity, desire for wish-fulfillment, and the tendency to imitate. There are certain elements in literature that children always desire. The first is action; the second, human interest; and the third is imaginative appeal.

An appreciation of good literature must be taught systematically. The child must be led to form the right habits of reading, just as he is led to form right habits of eating and drinking. One of the steps in forming good reading habits is to keep constantly before the child good books of easy reading material.

Discriminating and intelligent reading is an important factor in education. The child who reads easily and has been taught to seek for himself the information that may be found in books has taken the surest and the shortest road to knowledge. He may learn in a few hours facts that the child who does not read may learn only after years of experience, or not at all, and he has open to him a wealth of recreation and entertainment that cannot be duplicated in any other form.

With all of this in mind, the following books to be used in the reading library were chosen:

PRE - PRIMERS

Baker, Clara Belle and others. Playmates; by Clara Belle Baker, Mary Maud Reed, and Edna Dean Baker. Indianapolis, Bobbs Merrill Co., c 1934.

Carey, Alice and O'Donnell, Mabel. Here and There. Evanson, Ill., Row, Peterson and Co., c 1936.

Carey, Alice and O'Donnell, Mabel. Rides and Slides. Evanson, Ill., Row, Peterson and Co., c 1936.

Elson, William H. and others. More Dick and Jane; by William H. Elson, Lura E. Runkel, and William S. Gray. Chicago, Scott, Foresman & Co., c 1936.

Elson, William H. and others. Dick and Jane; by William H. Elson, Lura E. Runkel, and William S. Gray. Chicago, Scott, Foresman & Co., c 1936.

English, Mildred and Alexander, Thomas, Spot. Chicago, Johnson Publishing Co., c 1935.

Gehres, Ethel Maltby. Every day Life. Chicago, John C. Winston Co., c 1936.

Gehres, Ethel Maltby. Wag, a Friendly Dog. Chicago, John C. Winston Co., c 1934.

Martin, Cora M. Bob and Baby Pony. Chicago, Charles Scribner's Sons, c 1934.

Storm, Grace E. Nip and Tuck. Chicago, Lyons and Carnahan, c 1936.

PRIMERS

Baker, Clara B. and Baker, Edna D. Bobbs Merrill Primer. Topeka, The State of Kansas, c 1936.

Baker, Clara Belle and others. Friends for Every Day; by Clara Belle Baker, Mary Maud Reed, and Edna Dean Baker. Indianapolis, Bobbs Merrill Co., c 1934.

Bolenius, Emma Miller. Bolenius Primer. Chicago, Houghton Mifflin Co., c 1923.

Carey, Alice and O'Donnell, Mabel. Day In and Day Out. Evanston, Ill., Row, Peterson and Co., c 1936.

Elson, William H. and others. Elson Basic Primer; by William H. Elson, Lura E. Runkel, and William S. Gray. Chicago, Scott, Foresman & Co., c 1936.

English, Mildred and Alexander, Thomas. Jo-Boy. Chicago, Johnson Publishing Co., c 1935.

Firman, Sidney G. and Maltby, Ethel H. "The Child's First Primer. Chicago, John Winston Co., c 1935.

Freeman, Frank N. and Storm, Grace E. Child Story Primer. Chicago, Lyons and Carnahan, c 1935.

Gehres, Ethel Maltby. Every day Life Primer. Chicago, The John Winston Co., c 1936.

Hanna, Paul R. and Anderson, Genevieve. Peter's Family. Chicago, Scott, Foresman and Co., c 1935.

Klingensmith, Annie. Home Primer. Chicago, Albert Whitman and Co., c 1931.

Martin, Cora M. At the Farm. Chicago, Charles Scribner's Sons, c 1930.

Smith, Laura Rountree. Tiny Town Primer. Chicago, Albert Whitman and Co., Chicago, c 1934.

Storm, Grace E. Bob and Judy. Chicago, Lyons and Carnahan, c 1936.

FIRST READERS

Baker, Clara B. and Baker, Edna D. Bobbs Merrill
First Reader. Topeka, The State of Kansas, c 1936.

Baker, Clara B. and others. Friends in Town and
Country; by Clara B. Baker, Mary M., and Edna Dean
Baker. Indianapolis, Bobbs Merrill Co., c 1934.

Beauchamp, Wilbur L. and others. Science Stories.
Book one; by Wilbur L. Beauchamp, Gertrude Crampton,
and William S. Gray. Chicago, Scott, Foresman and
Co., c 1933.

Bolenius, Emma Miller. Bolenius First Reader.
Chicago, Houghton Mifflin Co., c 1923.

Carey, Alice and O'Donnell, Mabel. Round About.
Evanson, Ill., Row, Peterson, and Co., c 1936.

Davidson, Isobel and Anderson, Charles J. Lincoln
First Reader. Chicago, Laura Book Co., c 1929.

Elson, William H. and others. Elson Basic First
Reader; by William H. Elson, Lura E. Runkel, and
William S. Gray. Chicago, Scott, Foresman and Co.,
c 1936.

Gehres, Ethel Maltby. Everyday Life. Book one.
Chicago, The John C. Winston Co., c 1936.

Hanna, Paul R. and others. David's Friends at
School; by Paul R. Hanna, Genevieve Anderson, and
William S. Gray. Chicago, Scott, Foresman and Co.,
c 1936.

Klingensmith, Annie. Home First Reader. Chicago,
Albert Whitman and Co., c 1936.

Martin, Cora M. At Home. Chicago, Charles Scribner's
Sons, c 1933.

Ringer, Edith Hope and Downie, Lou Chase. Citizenship
First Reader. Chicago, Lippincott Co., c 1930.

Storm, Grace E. Good Times Together. Chicago, Lyons
and Carnahan, c 1936.

Studebaker, J. W. and others. Number Stories; by J. W. Studebaker, W. C. Findley, F. B. Knight, and William S. Gray. Chicago, Scott, Foresman and Co., c 1932.

Taylor, Francis Lillian. Adventures in Child Land. Chicago, Beckley Cardy Co., c 1932.

Towse, Anna B. and Gray, William S. Health Stories. Book one. Chicago, Scott, Foresman and Co., c 1933.

Whitford, William G. and others. Art Stories. Book one; by William G. Whitford, Edna B. Lick, and William S. Gray. Chicago, Scott, Foresman and Co., c 1933.

UNCLASSIFIED BOOKS

Aston, Mina Pearl. Story Book Tales. Chicago, Beckley-Cardy Co., c 1931.

Aston, Mina Pearl. Tales from Story Town. Chicago, Beckley-Cardy Co., c 1930.

Beaty, John Y. Farm Pets. Chicago, Rand McNally and Co., c 1935.

Deihl, Edna Groff. The Little Black Hen. Chicago, Albert Whitman and Co., c 1935.

Donaldson, Lois. In the Mouse's House. Chicago, Albert Whitman and Co., c 1936.

Donaldson, Lois. Karl's Wooden Horse. Chicago, Albert Whitman and Co., c 1934.

Dootson, Lily Lee. What Am I. Chicago, Rand McNally and Co., c 1935.

Dootson, Lily Lee. Who Am I. Chicago, Rand McNally and Co., c 1935.

Dootson, Lily Lee. Which Am I. Chicago, Rand McNally and Co., c 1935.

Frees, Harry Whittier. Four Little Bunnies. Chicago, Rand McNally and Co., c 1935.

Gleason, Jane. The Young Happy Rooster. Chicago, Albert Whitman and Co., c 1934.

Hamer, O. Stuart and Hamer, Anna M. Our Farm Babies. Bloomington, Ill., McKnight and McKnight, c 1934.

Harris, Jessie A., and Edmonds, Lillian M. Read It Yourself Stories. Chicago, Beckley-Cardy and Co., c 1930.

King, Marian. Shetta, a Wire-Haired Fox Terrier. Chicago, Albert Whitman and Co., c 1933.

La Rue, Mabel Guinnip. The F-U-N Book. New York, The Macmillan Co., c 1936.

La Rue, Mabel Guinnip. The Good Times Book. New York, The Macmillan Co., c 1931.

La Rue, Mabel Guinnip. Under the Story Tree. New York, The Macmillan Co., c 1936.

Lawson, Ethel Wilhelmina. The Pet Reader. Chicago, Beckley-Cardy Co., c 1926.

Leaf, Munro. Manners Can Be Fun. New York, Frederick A. Stokes Co., c 1936.

Leaf, Munro. Safety Can Be Fun. New York, Frederick A. Stokes Co., c 1936.

Mason, Miriam E. The Little Story House. Chicago, Beckley-Cardy Co., c 1935.

Serl, Emma. Johnny and Jenny Rabbit. Chicago, American Book Co., c 1926.

Smith, Laura Rountree. Hans and Hilda Holland. Chicago, A. Flanagan Co., c 1927.

Smith, Laura Rountree. Merry Little Cottontails. Chicago, A. Flanagan Co., c 1927.

Smith, Laura Rountree. The Tale of Curly Tail. Chicago, Albert Whitman Co., c 1923.

Stevenson, Robert Louis. Child's Garden of Verses. Chicago, Rand McNally Co., c 1935.

True, Josephine Morse. The Busy Little Honey Bee. Chicago, Rand McNally and Co., c 1926.

Walker, Hattie A. *The Snow Children*. Chicago, Beckley-Cardy Co., c 1929.

Walker, Hattie Adell. *Read a New Story Now*. Chicago, Beckley-Cardy Co., c 1935.

sleep. The school recognizes the importance of play as a part of its education. In the kindergarten it is the chief factor. The suggestion is made here and here to realize that play is essential to the welfare of children, and is readily providing well equipped play grounds. The right sort of playthings is an important factor in the matter.

They are classified according to what they do for the child. First, some toys are chosen for physical development; second, others aim to teach him creativeness and constructive ability; third, some playthings enable the child to imitate adult activities, they encourage imagination, and dramatic play; fourth, games and puzzles teach the child good sportsmanship and fair play.

In choosing the toys which teach manual control and which aid in physical development, we think of play material that a child can pull or push, such as a wagon or a doll carriage. He learns sliding apparatus also, if his surroundings provide no slides, swings, or ramps to develop his leg muscles. At the age from four to eight, blocks, Legos, and Duplo are very valuable in developing these muscles. After the age of eight the child will be interested in pushing toys, football, baseball and bat, and hockey sticks. All of this type of material is designed to help build healthy, strong bodies.

In the toy library it was not practical to have all of the toys mentioned above, since the play space for the experiment was limited to the back of the school yard. The toys used for developing muscles

THE TOY LIBRARY

Every child needs play as he needs food, air, exercise, and sleep. The school recognizes this importance of play as a factor in education. In the kindergarten it is the chief factor. The community is coming more and more to realize that play is essential to the welfare of children, and is rapidly providing well equipped play grounds. The right sort of playthings is an important factor in its success.

Toys are classified according to what they do for the child. First, some toys are planned for physical development; second, others aim to teach him creativeness and constructive ability; third, some playthings enable the child to imitate adult activities, they encourage imagination, and dramatic play; fourth, games and puzzles teach the child good sportsmanship and fair play.

In choosing the toys which teach muscular control and which aid in physical development, we think of play material that a child can pull or push, such as a wagon or a doll carriage. He needs climbing apparatus also, if his surroundings provide no stairs, porches, or fences to develop his leg muscles. At the ages from four to eight, skates, tricycles, and bicycles are very valuable in developing these muscles. After the age of eight the child will be interested in punching bag, football, baseball and bat, and hockey stick. All of this type of material is designed to help build healthy, sturdy bodies.

In the toy library it was not practical to have all of the toys mentioned above, since the play space for the experiment was limited to the back of the school room. The toys used for developing muscles

were: wagon (balloon tired to eliminate noise), tricycle, doll buggy, beach ball, step-ladder, and toy garden tools in the sand table.

Creative or constructive toys are also very important to the child, for they permit him to "make" and to "do". One outstanding tendency of the child is manipulation, the desire to handle things, to take them apart, to put them together, to pile up, knock down, arrange, build, and construct. This tendency enables him to learn a vast amount during the first few years of his life. He finds out for himself the difference between shapes, sizes and textures. The creative and constructive toys used in this experiment included the following; crayons, water paints, easel, scissors, paste, construction paper, plasticine, three sets of different sized and shaped building blocks, tinker toys, peg board and pegs, hammer and nails, saw and wooden boxes.

The third classification of play things includes the materials and toys which enable the child to imitate and react the activities of adults around him. The imitative toys used in this experiment were: doll, doll carriage, doll table, dishes, silverware, chairs, bed, cupboard, telephone, truck, aeroplane, several small cars, windmill, and toy farm animals.

The fourth group of toys includes games and puzzles. They are very interesting to the child and also provide a means of teaching patience and skill. The puzzles used were three large jig-saw Mother Goose picture puzzles; and the games included a marble game, checkers, dominoes, a spinning top game, a bean-bag game and a yo-yo.

The results of the toy library were very pleasing in the fact that very few of the toys were broken and many children brought their toys from home in order that they might share them with the other children.

THE VISITING PROGRAM

The Roosevelt School in which this experiment took place is located in the western part of Dodge City. This school has a larger percentage of underprivileged children than any other elementary school of this city. The majority of the children were from homes of the laboring class of people and many were from families that were on direct relief. Twelve of the children taking part in this experiment were underprivileged and were given one-half pint of milk each morning at school. Eight of the children were from broken homes. Very few of the parents of these children were able to read.

In the eighth week of school, the Pictograph-Chatterbox was given to the children of the first grade of the Roosevelt School in Dodge City. This was for eleven weeks of its usefulness to very young children, for the first grade children had not sufficient acquaintance with reading at that time to make use of picture or digits as a tool in their mental training. This book was played with only the simplest work as required at the time. The project matter in this book is rich in content, however, and helps the education of the child.

The number of first grade children that may be served at one time depends upon the amount of equipment available. Since there were no assistants available at the time of the test, the class was

CHAPTER III

THE TESTING PROGRAM

The Roosevelt School in which this experiment took place is located in the eastern part of Dodge City. This school has a larger percentage of underprivileged children than any other elementary school of this city. The majority of the children were from homes of the laboring class of people and many were from families that were on direct relief. Twelve of the children taking part in this experiment were undernourished and were served one-half pint of milk each morning at school. Eight of the children were from broken homes. Very few of the parents of these children owned their homes.

In the eighth week of school, the Pintner-Cunningham test was given to the children of the first grade of the Roosevelt School in Dodge City. This test was chosen because of its adaptation to very young children, for the first grade children had not sufficient acquaintance with reading at that time to make use of letters or digits as a tool in their mental testing. This test uses pictures and only the simplest mark is required of the child. The subject matter in this test is also of universal interest and holds the attention of the child.

The number of first grade children that may be tested at one time depends upon the amount of assistance available. Since there were no assistants available at the time of the test, the class was

divided into groups of ten to administer the test. The children were provided with two pencils each, and seated so as to minimize the chances of seeing each other's papers. The test was then administered according to the directions given in the manual.

After the papers were scored and the children's mental ages found, the class was divided into three groups of nearly equal mental ability. The median was used as the measure of central tendency of each group. The median of the mental ages of each group was as follows:

		Years	-	Months
Group A	Reading Library Activity	6	-	5.0
Group B	Toy Library Activity	6	-	6.0
Group C	Control Group	6	-	5.5

The following tables will show the chronological age, mental age, and the intelligence quotient of each child in his assigned group.

Table I Group A Reading Library Activity

	C.A. Years - Months	M. A. Years - Months	I.Q.
Betty H.	6 - 8	7 - 11	118
Myrna C.	6 - 9	7 - 6	111
Kyle T.	6 - 8	7 - 1	106
Mary H.	5 - 11	6 - 7	111
Shirley P.	6 - 0	6 - 6	108
Billy R.	7 - 10	6 - 3	80
Delcia L.	6 - 0	6 - 0	100
Emily K.	5 - 11	5 - 11	100
Billy T.	6 - 1	5 - 9	94
Donnie S.	5 - 10	5 - 8	97

The median of the mental ages of this group was six years and five months.

Table III	Group C	Control Group - No Activity	
	C.A. Years - Months	M.A. Years - Months	I.Q.
Tommy W.	6 - 9	7 - 9	115
Gracene B.	6 - 7	7 - 8	116
Bobby B.	5 - 9	7 - 5	129
Edward L.	6 - 1	7 - 2	118
Kenneth W.	6 - 5	6 - 6	101
Donald H.	7 - 4	6 - 4	86
Homer C.	6 - 2	6 - 3	101
Ralph D.	6 - 8	5 - 10	87
Rose R.	5 - 10	5 - 9	98
Melvin B.	6 - 2	4 - 11	80

The median of the mental ages of this group was six years and five and five-tenths months.

This experiment began November 8, 1937. The first one-half hour period in the afternoon was used for the duration of the entire experiment. It was a period of the day uninterrupted by assemblies, visual educational programs, or regular supervisors.

During the one-half hour period the children of the Reading Library Group went to their library corner to read and browse in the books. The children of the Toy Library Group went to the back of the room to play with the toys. The children of the Control Group took no part in the activities.

The children of the Reading Library Group were encouraged to complete the books or stories left unfinished the previous day. Each child had a library card which he placed in the book that he wished to continue reading the next day. This reserved the book for him and eliminated much waste of time in settling arguments. As a child completed a story he was given the opportunity of taking any or all of the Control Group that wished to hear the story to the "Reading Theater" (cloak room) and read the story to them.

The children of the Toy Library Group at first played independently of each other and many times there were disputes over the toys. However, after several weeks the children learned that by playing together they could have much more enjoyment and could construct many more things. They played house together as one large family. They found that the picture puzzles were much easier to put together when several were helping. They learned that one needs help to construct play houses, machine shops, air ports and farms. It was very pleasing to see the improvement in cooperation and unselfishness that was made by this group.

The children of the Control Group remained at their seats and had a free period for resting, finishing incomplete work, reading in the regular class room readers, or watching the activities going on about them. These children were given no directed use of their time.

The Metropolitan Achievement tests (Primary Battery) were used in testing the achievement of the pupils at the close of each nine weeks period. From these tests it was possible to obtain adequate measures of not only the best, but of the poorest first grade pupils, for tasks were included that every first grade pupil might be expected to perform correctly and others that would be difficult for even the best pupils. The very difficult and the very easy items provided reliable measures of achievement status for all pupils. The easiest items gave the pupils a feeling of accomplishment and a desire to continue the test.

The Primary I Battery contains four tests - three in reading and one in numbers. Test one measures knowledge of words and phrases as shown by ability to select the pictures that depict each word or phrase. Test two measures knowledge of words and phrases as shown by ability to select from a series of words or phrases the one read by the examiner. Test three measures knowledge of the meanings of words as shown by ability to select the words in a series that have a given meaning. Test four measures knowledge of primary number concepts and skills.

Except for test one and the last part of test four of each achievement test, it was necessary for the examiner to read the directions for each item, since first-grade pupils are not able to handle groups of questions to the same extent as pupils in higher grades who have had more experience.

The Primary I battery test has three forms: A, B, and C. All three forms were used in this experiment. A different form was used at the close of each of the three nine weeks periods, thus making it possible to measure the improvement made during each period.

On January 17, 1938, Form C was given. At the close of the second nine weeks period, March 18, 1938, Form B was given, and on May 20, 1938, the close of the third nine weeks period, Form A was given.

and arithmetic of the pupils in each group. These subjects were the only subjects of a first grade distribution that were available to their administrators and to provide results in order to make a comparison of the achievement of the groups. However, there were many valuable social principles which the distribution gave opportunity to include, such as respect for the rights of others, ability to give and take constructive criticism, ability to cooperate, leadership, and confidence. These were impossible to measure objectively.

The following tables will show the results of the first achievement test given on January 17, 1938, at the close of the first nine weeks period.

CHAPTER IV

RESULTS AND CONCLUSIONS

At the close of the experiment the results of the tests were checked in order to determine the educative achievements in reading and arithmetic of the pupils in each group. These subjects were the only subjects of a first grade curriculum that were possible to check objectively and to obtain results in order to make a comparison of the achievement of the groups. However, there were many valuable social principles which the activities gave opportunity to train, such as respect for the rights of others, ability to give and take constructive criticism, ability to initiate, leadership, and followship. These were impossible to measure objectively.

The following tables will show the results of the first achievement test given on January 17, 1938, at the close of the first nine weeks period.

METROPOLITAN ACHIEVEMENT TEST

PRIMARY I BATTERY: FORM C

Table IV	Group A	Reading Library Activity	
Test One (Word Picture)	Score	Grade Equivalent	
Betty H.	16	1.8	
Myrna C.	10	1.5	
Kyle T.	13	1.6	
Mary H.	11	1.5	
Shirley P.	14	1.7	
Billy R.	7	1.3	
Delcia L.	5	1.2	
Emily K.	13	1.6	
Billy T.	11	1.5	
Donnie S.	4	1.2	

METROPOLITAN ACHIEVEMENT TEST

PRIMARY I BATTERY: FORM C

<u>Table V</u>	<u>Group A</u>	<u>Reading Library Activity</u>	
<u>Test Two (Word Recognition)</u>	<u>Score</u>	<u>Grade Equivalent</u>	
Betty H.	16	2.2	
Myrna C.	10	1.6	
Kyle T.	5	1.3	
Mary H.	9	1.5	
Shirley P.	8	1.5	
Billy R.	7	1.4	
Delcia L.	11	1.7	
Emily K.	12	1.8	
Billy T.	9	1.5	
Donnie S.	11	1.7	

METROPOLITAN ACHIEVEMENT TEST

PRIMARY I BATTERY: FORM C

Table VI Group A Reading Library Activity

Test Three (Word Meaning)	Score	Grade Equivalent
Betty H.	2	1.2
Myrna C.	0	1.0
Kyle T.	0	1.0
Mary H.	6	1.4
Shirley P.	8	1.5
Billy R.	9	1.5
Delcia L.	5	1.3
Emily K.	3	1.2
Billy T.	0	1.0
Donnie S.	6	1.4

METROPOLITAN ACHIEVEMENT TEST

PRIMARY I BATTERY: FORM C

Table VII		Group A		Reading Library Activity	
Reading Average	Grade Equivalent	Age Equivalent		Years - Months	
Betty H.	1.7	7	-	0	
Myrna C.	1.4	6	-	6	
Kyle T.	1.3	6	-	4	
Mary H.	1.5	6	-	7	
Shirley P.	1.6	6	-	9	
Billy R.	1.4	6	-	6	
Delcia L.	1.4	6	-	6	
Emily K.	1.5	6	-	7	
Billy T.	1.3	6	-	4	
Donnie S.	1.4	6	-	4	

The median of the average reading grade achievement for this group was first year, four and seventy-five hundredths months which is equivalent to the educational age of six years, six and seventy-five hundredths months.

METROPOLITAN ACHIEVEMENT TEST

PRIMARY I BATTERY: FORM C

Table VIII	Group A	Reading Library Activity	
Test Four (Numbers)	Score	Grade Equivalent	
Betty H.	49	2.6	
Myrna C.	35	2.0	
Kyle T.	45	2.4	
Mary H.	30	1.9	
Shirley P.	47	2.5	
Billy R.	24	1.6	
Delcia L.	23	1.6	
Emily K.	26	1.7	
Billy T.	34	2.0	
Donnie S.	30	1.7	

The median of the grade achievement in numbers for this group was second year which is equivalent to the educational age of seven years two months.

METROPOLITAN ACHIEVEMENT TEST

PRIMARY I BATTERY: FORM C

Table IX	Group A	Reading Library Activity	
Total Average	Grade Equivalent	Age Equivalent Years - Months	
Betty H.	2.0	7	- 2
Myrna C.	1.5	6	- 7
Kyle T.	1.6	6	- 9
Mary H.	1.6	6	- 9
Shirley P.	1.8	7	- 0
Billy R.	1.4	6	- 6
Delcia L.	1.4	6	- 6
Emily K.	1.5	6	- 7
Billy T.	1.5	6	- 7
Donnie S.	1.5	6	- 7

The median of the average grade achievement of this group was first year, five and seventy-five hundredths months which is equivalent to the educational age of six years and eight and five-tenths months.

METROPOLITAN ACHIEVEMENT TEST

PRIMARY I BATTERY: FORM C

Table X	Group B	Toy Library Activity	
Test One (Word Picture)	Score	Grade Equivalent	
Duane P.	13	1.6	
Eleanor L.	5	1.2	
Donald W.	10	1.5	
Lawrence I.	9	1.4	
Junior L.	10	1.5	
Bobby G.	7	1.3	
John P.	6	1.3	
James W.	6	1.3	
Gerald M.	9	1.4	
Sue L.	2	1.1	

METROPOLITAN ACHIEVEMENT TEST

PRIMARY I BATTERY: FORM C

Table XI	Group B	Toy Library Activity	
Test Two (Word Recognition)	Score	Grade Equivalent	
Duane P.	9	1.5	
Eleanor L.	9	1.5	
Donald W.	8	1.5	
Lawrence I.	9	1.5	
Junior L.	10	1.6	
Bobby G.	9	1.5	
John P.	5	1.3	
James W.	8	1.5	
Gerald M.	5	1.3	
Sue L.	9	1.5	

METROPOLITAN ACHIEVEMENT TEST

PRIMARY I BATTERY: FORM C

Table XII	Group B	Toy Library Activity	
Test Three (Word Meaning)	Score	Grade Equivalent	
Duane P.	5	1.3	
Eleanor L.	11	1.6	
Donald W.	2	1.2	
Lawrence I.	0	1.0	
Junior L.	8	1.5	
Bobby G.	0	1.0	
John P.	3	1.2	
James W.	4	1.3	
Gerald M.	0	1.0	
Sue L.	0	1.0	

The median of the average reading grade achievement for this group was 11.5 years, 11 months and 15 days. This score is equivalent to the educational age of six years, five and three tenths months.

METROPOLITAN ACHIEVEMENT TEST

PRIMARY I BATTERY: FORM C

Table XIII	Group B	Toy Library Activity
Reading Average	Grade Equivalent	Age Equivalent Years - Months
Duane P.	1.5	6 - 7
Eleanor L.	1.4	6 - 6
Donald W.	1.3	6 - 4
Lawrence I.	1.3	6 - 4
Junior L.	1.5	6 - 7
Bobby G.	1.3	6 - 4
John P.	1.3	6 - 4
James W.	1.4	6 - 6
Gerald M.	1.2	6 - 3
Sue L.	1.2	6 - 3

The median of the average reading grade achievement for this group was first year, three and seventy-five hundredths months which is equivalent to the educational age of six years, five and five-tenths months.

METROPOLITAN ACHIEVEMENT TEST

PRIMARY I BATTERY: FORM C

Table XIV	Group B	Toy Library Activity	
Test Four (Numbers)	Score	Grade Equivalent	
Duane P.	44	2.4	
Eleanor L.	46	2.4	
Donald W.	39	2.2	
Lawrence I.	45	2.4	
Junior L.	26	1.7	
Bobby G.	30	1.9	
John P.	27	1.7	
James W.	28	1.7	
Gerald M.	26	1.7	
Sue L.	31	1.9	

The median of the grade achievement in numbers for this group was first year nine and five-tenths months which is equivalent to the educational age of seven years one and five-tenths months.

METROPOLITAN ACHIEVEMENT TEST

PRIMARY I BATTERY: FORM C

Table XV	Group B	Toy Library Activity
Total Average	Grade Equivalent	Age Equivalent Years - Months
Duane P.	1.7	6 - 10
Eleanor L.	1.7	6 - 10
Donald W.	1.5	6 - 7
Lawrence I.	1.6	6 - 8
Junior L.	1.5	6 - 7
Bobby G.	1.4	6 - 6
John P.	1.3	6 - 4
James W.	1.4	6 - 6
Gerald M.	1.4	6 - 6
Sue L.	1.4	6 - 6

The median of the average grade achievement of this group was first year, five months which is equivalent to the educational age of six years and seven months.

METROPOLITAN ACHIEVEMENT TEST

PRIMARY I BATTERY: FORM C

Table XVI	Group C	Control Group (No Activity)
Test One (Word Picture)	Score	Grade Equivalent
Tommy W.	8	1.4
Gracene B.	9	1.4
Bobby B.	11	1.5
Edward L.	3	1.1
Kenneth W.	13	1.6
Donald H.	3	1.3
Homer C.	11	1.7
Ralph D.	4	1.2
Rose R.	9	1.4
Melvin B.	0	1.0

METROPOLITAN ACHIEVEMENT TEST

PRIMARY I BATTERY: FORM C

Table XVII	Group C	Control Group (No Activity)
Test Two (Word Recognition)	Score	Grade Equivalent
Tommy W.	8	1.5
Gracene B.	9	1.5
Bobby B.	9	1.5
Edward L.	7	1.4
Kenneth W.	13	1.9
Donald H.	4	1.2
Homer C.	9	1.5
Ralph D.	5	1.3
Rose R.	5	1.3
Melvin B.	3	1.2

METROPOLITAN ACHIEVEMENT TEST

PRIMARY I BATTERY: FORM C

Table XVIII	Group C	Control Group (No Activity)
Test Three (Word Meaning)	Score	Grade Equivalent
Tommy W.	6	1.4
Gracene B.	8	1.5
Bobby B.	2	1.2
Edward L.	6	1.4
Kenneth W.	8	1.8
Donald H.	6	1.4
Homer C.	5	1.3
Ralph D.	4	1.3
Rose R.	0	1.0
Melvin B.	0	1.0

METROPOLITAN ACHIEVEMENT TEST

PRIMARY I BATTERY: FORM C

Table XIX	Group C	Control Group (No Activity)
Reading Average	Grade Equivalent	Age Equivalent Years - Months
Tommy W.	1.4	6 - 6
Gracene B.	1.5	6 - 7
Bobby B.	1.4	6 - 6
Edward L.	1.3	6 - 4
Kenneth W.	1.6	6 - 9
Donald H.	1.2	6 - 3
Homer C.	1.5	6 - 7
Ralph D.	1.3	6 - 4
Rose R.	1.2	6 - 3
Melvin B.	1.0	- - -

The median of the average reading grade achievement for this group was first year four months which is equivalent to the educational age of six years and six months.

METROPOLITAN ACHIEVEMENT TEST

PRIMARY I BATTERY: FORM C

Table XX	Group C	Control Group (No Activity)
Test Four (Numbers)	Score	Grade Equivalent
Tommy W.	32	1.9
Gracene B.	35	2.0
Bobby B.	47	2.5
Edward L.	32	1.9
Kenneth W.	25	1.7
Donald H.	23	1.6
Homer C.	31	1.9
Ralph D.	21	1.5
Rose R.	13	1.3
Melvin B.	4	1.0

The median of the grade achievement in numbers for this group was first year, eight and five-tenths months which is equivalent to the educational age of seven years and five-tenths months.

METROPOLITAN ACHIEVEMENT TEST

PRIMARY I BATTERY: FORM C

Table XXI	Group	Control Group (No Activity)	
Total Average	Grade Equivalent	Age Equivalent	
		Years - Months	
Tommy W.	1.5	6 - 7	
Gracene B.	1.6	6 - 9	
Bobby B.	1.7	6 - 10	
Edward L.	1.4	6 - 6	
Kenneth W.	1.6	6 - 9	
Donald H.	1.3	6 - 4	
Homer C.	1.6	6 - 9	
Ralph D.	1.3	6 - 4	
Rose R.	1.3	6 - 4	
Melvin B.	1.05	- - -	

The median of the average grade achievement of this group was first year five months which is equivalent to the educational age of six years and seven months.

At the close of the first nine weeks period, beginning November 8, 1937 and ending January 17, 1938, the medians of the average reading achievement for the three groups were as follows:

	Grade Equivalent Years - Months
Reading Library Activity Group - - - - -	1 - 4.75
Toy Library Activity Group - - - - -	1 - 3.75
Control Group - - - - -	1 - 4

The median grade equivalent of the Reading Library Group was one month higher than the Toy Library Group and seventy-five hundredths of a month higher than the Control Group.

The medians of the number achievements for the three groups were as follows:

	Grade Equivalent Years - Months
Reading Library Activity Group - - - - -	2 - 0
Toy Library Activity Group - - - - -	1 - 9.5
Control Group - - - - -	1 - 8.5

The median of the Reading Library Activity Group was five-tenths of a month above that of the Toy Library Activity Group and one and five-tenths of a month above the Control Group.

The medians of the average achievements of the three groups were as follows:

	Grade Equivalent Years - Months
Reading Library Activity Group - - - - -	1 - 5.75
Toy Library Activity Group - - - - -	1 - 5.00
Control Group - - - - -	1 - 5.00

The median of the Reading Library Activity Group was seventy-five hundredths of a month above that of the Toy Library Activity Group and the Control Group.

During the next nine weeks the activities were carried on in the same manner as the previous nine weeks. On March 18, 1938, the Metropolitan Achievement Test, Primary I Battery: Form B was given. The following tables will show the results of the second achievement test.

Kyle S.	36	1.4
Ray L.	35	1.3
Shirley T.	37	1.4
Willy B.	31	1.2
Doris L.	34	1.3
Willy K.	33	1.3
Willy T.	34	1.3
Willy B.	34	1.3

METROPOLITAN ACHIEVEMENT TEST

PRIMARY I BATTERY: FORM B

Table XXII	Group A	Reading Library Activity	
Test One (Word Picture)	Score	Grade Equivalent	
Betty H.	36	2.9	
Myrna C.	23	2.1	
Kyle T.	26	2.3	
Mary H.	27	2.3	
Shirley P.	27	2.3	
Billy R.	11	1.5	
Delcia L.	19	1.9	
Emily K.	30	2.5	
Billy T.	20	1.9	
Donnie S.	16	1.8	

METROPOLITAN ACHIEVEMENT TEST

PRIMARY I BATTERY: FORM B

Table XXIII	Group A	Reading Library Activity	
Test Two (Word Recognition)	Score	Grade Equivalent	
Betty H.	17	2.4	
Myrna C.	11	1.7	
Kyle T.	10	1.6	
Mary H.	18	2.5	
Shirley P.	13	1.9	
Billy R.	12	1.8	
Delcia L.	15	2.1	
Emily K.	16	2.2	
Billy T.	12	1.8	
Donnie S.	10	1.6	

METROPOLITAN ACHIEVEMENT TEST

PRIMARY I BATTERY: FORM B

Table XXIV	Group A	Reading Library Activity	
Test Three (Word Meaning)	Score	Grade Equivalent	
Betty H.	16	2.0	
Myrna C.	16	2.0	
Kyle T.	14	1.8	
Mary H.	11	1.6	
Shirley P.	11	1.6	
Billy R.	8	1.5	
Delcia L.	24	2.8	
Emily K.	18	2.2	
Billy T.	8	1.5	
Donnie S.	15	1.9	

METROPOLITAN ACHIEVEMENT TEST

PRIMARY I BATTERY: FORM B

Table XXV	Group A	Reading Library Activity	
Reading Average	Grade Equivalent	Age Equivalent	
		Years - Months	
Betty H.	2.4	7 - 7	
Myrna C.	1.9	7 - 1	
Kyle T.	1.9	7 - 1	
Mary H.	2.1	7 - 3	
Shirley P.	1.9	7 - 1	
Billy R.	1.6	6 - 9	
Delcia L.	2.2	7 - 5	
Emily K.	2.3	7 - 6	
Billy T.	1.7	6 - 10	
Donnie S.	1.7	6 - 10	

The median of the average reading grade achievement for this group was first year, nine and sixty-seven hundredths months which is equivalent to the educational age of seven years, one and sixty-seven hundredths months.

METROPOLITAN ACHIEVEMENT TEST

PRIMARY I BATTERY: FORM B

Table XXVI	Group A	Reading Library Activity	
Test Four (Numbers)	Score	Group Equivalent	
Betty H.	57	2.9	
Myrna C.	49	2.6	
Kyle T.	55	2.8	
Mary H.	40	2.2	
Shirley P.	52	2.7	
Billy R.	35	2.0	
Delcia L.	28	1.8	
Emily K.	35	2.0	
Billy T.	43	2.3	
Donnie S.	26	1.7	

The median of the grade achievement in numbers for this group was second year, two and three-tenths months which is equivalent to the educational age of seven years and five and three-tenths months.

METROPOLITAN ACHIEVEMENT TEST

PRIMARY I BATTERY: FORM B

Table XXVII	Group A	Reading Library Activity	
Total Average	Grade Equivalent	Age Equivalent	
		Years - Months	
Betty H.	2.5	7 - 8	
Myrna C.	2.1	7 - 3	
Kyle T.	2.1	7 - 3	
Mary H.	2.1	7 - 3	
Shirley P.	2.1	7 - 3	
Billy R.	1.7	6 - 10	
Delcia L.	2.1	7 - 3	
Emily K.	2.2	7 - 5	
Billy T.	1.8	7 - 0	
Donnie S.	1.7	6 - 10	

The median of the average grade achievement of this group was second year one and four-tenths months which is equivalent to the educational age of seven years, three and eight-tenths months.

METROPOLITAN ACHIEVEMENT TEST

PRIMARY I BATTERY: FORM B

Table XXVIII	Group B	Toy Library Activity	
Test One (Word Picture)	Score	Grade Equivalent	
Duane P.	28	2.4	
Eleanor L.	18	1.8	
Donald W.	26	2.3	
Lawrence I.	18	1.8	
Junior L.	12	1.6	
Bobby G.	22	2.0	
John P.	13	1.6	
James W.	12	1.6	
Gerald M.	16	1.8	
Sue L.	5	1.2	

METROPOLITAN ACHIEVEMENT TEST

PRIMARY I BATTERY: FORM B

<u>Table XXIX</u>	<u>Group B</u>	<u>Toy Library Activity</u>	
<u>Test Two (Word Recognition)</u>	<u>Score</u>	<u>Grade Equivalent</u>	
Duane P.	12	1.8	
Eleanor L.	10	1.6	
Donald W.	9	1.5	
Lawrence I.	11	1.7	
Junior L.	9	1.5	
Bobby G.	13	1.9	
John P.	11	1.7	
James W.	10	1.6	
Gerald M.	10	1.6	
Sue L.	8	1.5	

METROPOLITAN ACHIEVEMENT TEST

PRIMARY I BATTERY: FORM B

Table XXX	Group B	Toy Library Activity	
Test Three (Word Meaning)	Score	Grade Equivalent	
Duane P.	18	2.2	
Eleanor L.	16	2.0	
Donald W.	21	2.5	
Lawrence I.	15	1.9	
Junior L.	5	1.3	
Bobby G.	15	1.9	
John P.	18	2.2	
James W.	12	1.7	
Gerald M.	4	1.3	
Sue L.	2	1.2	

METROPOLITAN ACHIEVEMENT TEST

PRIMARY I BATTERY: FORM B

Table XXXI		Group B	Toy Library Activity
Average Reading	Grade Equivalent	Age Equivalent Years - Months	
Duane P.	2.1	7	3
Eleanor L.	1.8	7	0
Donald W.	2.1	7	3
Lawrence I.	1.8	7	0
Junior L.	1.4	6	6
Bobby G.	1.9	7	1
John P.	1.8	7	0
James W.	1.6	6	9
Gerald M.	1.5	6	7
Sue L.	1.3	6	4

The median of the average reading grade achievement for this group was first year, eight and thirty-three hundredths months which is equivalent to the educational age of seven years and thirty-three hundredths of a month.

METROPOLITAN ACHIEVEMENT TEST

PRIMARY I BATTERY: FORM B

Table XXXII	Group B	Toy Library Activity	
Test Four (Numbers)	Score	Grade Equivalent	
Duane P.	54	2.7	
Eleanor L.	47	2.5	
Donald W.	43	2.3	
Lawrence I.	54	2.7	
Junior L.	36	2.1	
Bobby G.	45	2.4	
John P.	42	2.3	
James W.	29	1.8	
Gerald M.	29	1.8	
Sue L.	29	1.8	

The median of the grade achievement in numbers for this group was second year, three and five-tenths months which is equivalent to the educational age of seven years, six and five-tenths months.

METROPOLITAN ACHIEVEMENT TEST

PRIMARY I BATTERY: FORM B

Table XXXIII	Group B	Toy Library Activity	
Total Average	Grade Equivalent	Age Equivalent	
		Years - Months	
Duane P.	2.2	7	5
Eleanor L.	2.0	7	2
Donald W.	2.1	7	3
Lawrence I.	2.0	7	2
Junior L.	1.6	6	9
Bobby G.	2.1	7	3
John P.	1.9	7	1
James W.	1.6	6	9
Gerald M.	1.6	6	9
Sue L.	1.4	6	6

The median of the achievement of this group was second year which is equivalent to the educational age of seven years and two months.

METROPOLITAN ACHIEVEMENT TEST

PRIMARY I BATTERY: FORM B

Table XXXIV	Group C	Control Group (No Activity)
Test One (Word Picture)	Score	Grade Equivalent
Tommy W.	19	1.9
Gracene B.	30	2.5
Bobby B.	29	2.5
Edward L.	21	2.0
Kenneth W.	29	2.5
Donald H.	10	1.5
Homer C.	20	1.9
Ralph D.	2	1.1
Rose R.	10	1.5
Melvin B.	0	1.0

METROPOLITAN ACHIEVEMENT TEST

PRIMARY I BATTERY: FORM B

<u>Table XXXV</u>	<u>Group C</u>	<u>Control Group (No Activity)</u>
<u>Test Two (Word Recognition)</u>	<u>Score</u>	<u>Grade Equivalent</u>
Tommy W.	11	1.7
Gracene B.	16	2.2
Bobby B.	10	1.6
Edward L.	13	1.9
Kenneth W.	16	2.2
Donald H.	10	1.6
Homer C.	11	1.7
Ralph D.	7	1.4
Rose R.	10	1.6
Melvin B.	9	1.5

METROPOLITAN ACHIEVEMENT TEST

PRIMARY I BATTERY: FORM B

Table XXXVI	Group C	Control Group (No Activity)
Test Three (Word Meaning)	Score	Grade Equivalent
Tommy W.	12	1.7
Gracene B.	18	2.2
Bobby B.	10	1.6
Edward L.	14	1.8
Kenneth W.	3	1.2
Donald H.	8	1.5
Homer C.	12	1.7
Ralph D.	0	1.0
Rose R.	9	1.5
Melvin B.	0	1.0

The median of the average reading grade equivalent for this group was first year, eight months which is equivalent to the average reading age of seven years.

METROPOLITAN ACHIEVEMENT TEST

PRIMARY I BATTERY: FORM B

<u>Table XXXVII</u>	<u>Group C</u>	<u>Control Group (No Activity)</u>
<u>Reading Average</u>	<u>Grade Equivalent</u>	<u>Age Equivalent</u> <u>Years - Months</u>
Tommy W.	1.8	7 - 0
Gracene B.	2.3	7 - 6
Bobby B.	1.9	7 - 1
Edward L.	1.9	7 - 1
Kenneth W.	1.8	7 - 0
Donald H.	1.5	6 - 7
Homer C.	1.7	6 - 10
Ralph D.	1.2	6 - 3
Rose R.	1.5	6 - 7
Melvin B.	1.2	6 - 3

The median of the average reading grade achievement for this group was first year, eight months which is equivalent to the educational age of seven years.

METROPOLITAN ACHIEVEMENT TEST

PRIMARY I BATTERY: FORM B

Table XXXVIII	Group C	Control Group (No Activity)	
Test Four (Numbers)	Score	Grade Equivalent	
Tommy W.	49	2.6	
Gracene B.	43	2.3	
Bobby B.	50	2.6	
Edward L.	35	2.0	
Kenneth W.	29	1.8	
Donald H.	26	1.7	
Homer C.	35	2.0	
Ralph D.	25	1.7	
Rose R.	25	1.7	
Melvin B.	5	1.0	

The median of the grade achievement in numbers for this group was first year, nine and five-tenths months which is equivalent to the educational age of seven years, one and five-tenths months.

METROPOLITAN ACHIEVEMENT TEST

PRIMARY I BATTERY: FORM B

Table XXXIX	Group C	Control Group (No Activity)	
Total Average	Grade Equivalent	Age Equivalent	
		Years - Months	
Tommy W.	2.0	7 - 2	
Gracene B.	2.3	7 - 6	
Bobby B.	2.1	7 - 3	
Edward L.	1.9	7 - 1	
Kenneth W.	1.8	7 - 0	
Donald H.	1.5	6 - 7	
Homer C.	1.8	7 - 0	
Ralph D.	1.3	6 - 4	
Rose R.	1.5	6 - 7	
Melvin B.	1.1	6 - 1	

The median of the achievement of this group was first year, eight and five-tenths months which is equivalent to the educational age of seven years and five-tenths months.

At the close of the second nine weeks period beginning January 21, 1938, and ending March 18, 1938, the Reading Library Group showed the greatest progress in reading while the Toy Library Group made the greatest advancement in numbers.

The medians of the average reading achievements for the three groups were as follows:

	Grade Equivalent Years - Months
Reading Library Activity - - - - -	1 - 9.67
Toy Library Activity - - - - -	1 - 8.33
Control Group - - - - -	1 - 8

The improvements made in the reading medians of the three groups during the nine weeks period were as follows:

Reading Library Activity - - - - -	4.92 Months
Toy Library Activity - - - - -	4.58 Months
Control Group - - - - -	4.00 Months

The medians of the number achievements for the three groups were as follows:

	Grade Equivalent Years - Months
Reading Library Activity Group - - - - -	2 - 3
Toy Library Activity Group - - - - -	2 - 3.5
Control Group - - - - -	1 - 9.5

The improvements made in the number medians of the three groups during the second nine weeks period were as follows:

Reading Library Activity Group	3 months
Toy Library Activity Group	4 months
Control Group	1 month

The medians of the average achievements of the three groups made during the second nine weeks period were as follows:

	Grade Equivalent Years - Months
Reading Library Activity Group	2 - 1.4
Toy Library Activity Group	2 - 0
Control Group	1 - 8.5

The improvements made in the average achievement medians of the three groups during the second nine weeks period were as follows:

Reading Library Activity Group	5.65 Months
Toy Library Activity Group	5.00 Months
Control Group	3.50 Months

On March 21, 1938, the third period of the experiment began. This nine weeks period of the activities was carried on in the same manner as the previous periods. On May 20, 1938, the Metropolitan Achievement Test, Primary I Battery: Form A was given. The following tables will show the results of the third achievement test.

METROPOLITAN ACHIEVEMENT TEST

PRIMARY I BATTERY: FORM A

<u>Table XL</u>	<u>Group A</u>	<u>Reading Library Activity</u>	
<u>Test One (Word Picture)</u>	<u>Score</u>	<u>Grade Equivalent</u>	
Betty H.	36	2.9	
Myrna C.	34	2.8	
Kyle T.	33	2.7	
Mary H.	40	3.1	
Shirley P.	32	2.6	
Billy R.	16	1.9	
Delcia L.	24	2.2	
Emily L.	38	3.0	
Billy T.	23	2.1	
Donnie S.	31	2.6	

METROPOLITAN ACHIEVEMENT TEST

PRIMARY I BATTERY; FORM A

<u>Table XLI</u>	<u>Group A</u>	<u>Reading Library Activity</u>	
<u>Test Two (Word Recognition)</u>	<u>Score</u>	<u>Grade Equivalent</u>	
Betty H.	17	2.4	
Myrna C.	19	2.7	
Kyle T.	15	2.1	
Mary H.	20	3.0	
Shirley P.	19	2.7	
Billy R.	11	1.7	
Delcia L.	17	2.4	
Emily K.	20	3.0	
Billy T.	17	2.4	
Donnie S.	14	2.0	

METROPOLITAN ACHIEVEMENT TEST

PRIMARY I BATTERY: FORM A

Table XLII	Group A	Reading Library Activity	
Test Three (Word Meaning)	Score	Grade Equivalent	
Betty H.	22	2.6	
Myrna C.	21	2.5	
Kyle T.	21	2.5	
Mary H.	23	2.7	
Shirley P.	19	2.3	
Billy R.	5	1.3	
Delcia L.	20	2.4	
Emily K.	24	2.8	
Billy T.	18	2.2	
Donnie S.	20	2.4	

METROPOLITAN ACHIEVEMENT TEST

PRIMARY I BATTERY: FORM A

Table XLIII		Group A	Reading Library Activity
Reading Average	Grade Equivalent	Age Equivalent Years - Months	
Betty H.	2.6	7 - 10	
Myrna C.	2.7	7 - 11	
Kyle T.	2.4	7 - 7	
Mary H.	2.9	8 - 2	
Shirley P.	2.5	7 - 8	
Billy R.	1.6	6 - 9	
Delcia L.	2.3	7 - 6	
Emily K.	2.9	8 - 2	
Billy T.	2.2	7 - 5	
Donnie S.	2.3	7 - 6	

The median of the average reading grade achievement for this group was second year, five months which is equivalent to the educational age of seven years, eight months.

METROPOLITAN ACHIEVEMENT TEST

PRIMARY I BATTERY: FORM A

Table XLIV	Group A	Reading Library Activity	
Test Four (Numbers)	Score	Grade Equivalent	
Betty H.	55	2.8	
Myrna C.	54	2.7	
Kyle T.	54	2.7	
Mary H.	49	2.6	
Shirley P.	55	2.8	
Billy R.	44	2.4	
Delcia L.	33	2.0	
Emily K.	49	2.6	
Billy T.	46	2.4	
Donnie S.	30	1.9	

The median of the grade achievement in numbers for this group was second year, six and five-tenths months which is equivalent to the educational age of seven years and ten and five-tenths months.

METROPOLITAN ACHIEVEMENT TEST

PRIMARY I BATTERY: FORM A

Table XLV			Group A	Reading Library Activity
Total Average	Grade Equivalent	Age Equivalent		
		Years - Months		
Betty H.	2.7	7 - 11		
Myrna C.	2.7	7 - 11		
Kyle T.	2.5	7 - 8		
Mary H.	2.8	8 - 0		
Shirley P.	2.6	7 - 10		
Billy R.	1.8	7 - 0		
Delcia L.	2.3	7 - 6		
Emily K.	2.8	8 - 0		
Billy T.	2.2	7 - 5		
Donnie S.	2.2	7 - 5		

The median of the achievement of this group was second year, six months which is equivalent to the educational age of seven years, ten months.

METROPOLITAN ACHIEVEMENT TEST

PRIMARY I BATTERY: FORM A

Table XLVI	Group B	Toy Library Activity	
Test One (Word Picture)	Score	Grade Equivalent	
Duane P.	36	2.9	
Eleanor L.	28	2.4	
Donald W.	26	2.3	
Lawrence I.	26	2.3	
Junior L.	21	2.0	
Bobby G.	28	2.4	
John P.	21	2.0	
James W.	17	1.8	
Gerald M.	19	1.9	
Sue L.	10	1.5	

METROPOLITAN ACHIEVEMENT TEST

PRIMARY I BATTERY: FORM A

Table XLVII	Group B	Toy Library Activity	
Test Two (Word Recognition)	Score	Grade Equivalent	
Duane P.	16	2.2	
Eleanor L.	17	2.4	
Donald W.	16	2.2	
Lawrence I.	17	2.4	
Junior L.	7	1.4	
Bobby G.	16	2.2	
John P.	15	2.1	
James W.	14	2.0	
Gerald M.	13	1.9	
Sue L.	11	1.7	

METROPOLITAN ACHIEVEMENT TEST

PRIMARY I BATTERY: FORM A

Table XLVIII	Group B	Toy Library Activity	
Test Three (Word Meaning)	Score	Grade Equivalent	
Duane P.	22	2.6	
Eleanor L.	19	2.3	
Donald W.	18	2.2	
Lawrence I.	20	2.4	
Junior L.	7	1.4	
Bobby G.	18	2.2	
John P.	21	2.5	
James W.	7	1.4	
Gerald M.	8	1.5	
Sue L.	4	1.3	

The scores on the word meaning tests are converted to grade equivalents by using the standard year, ten and thirty-three months scale which is equivalent to the educational age of seven years, five and thirty-three months.

METROPOLITAN ACHIEVEMENT TEST

PRIMARY I BATTERY: FORM A

Table XLIX		Group B	Toy Library Activity
Reading Average	Grade Equivalent	Age Equivalent Years - Months	
Duane P.	2.6	7 - 10	
Eleanor L.	2.4	7 - 7	
Donald W.	2.2	7 - 5	
Lawrence I.	2.3	7 - 6	
Junior L.	1.6	6 - 9	
Bobby G.	2.2	7 - 5	
John P.	2.2	7 - 5	
James W.	1.7	6 - 10	
Gerald M.	1.8	7 - 0	
Sue L.	1.5	6 - 7	

The median of the average reading grade achievement for this group was second year, two and thirty-three hundredths months which is equivalent to the educational age of seven years, five and thirty-three hundredths months.

METROPOLITAN ACHIEVEMENT TEST

PRIMARY I BATTERY: FORM A

Table L	Group	Toy Library Activity	
Test Four (Numbers)		Score	Grade Equivalent
Duane P.		58	2.9
Eleanor L.		54	2.7
Donald W.		51	2.6
Lawrence I.		58	2.9
Junior L.		42	2.3
Bobby G.		53	2.7
John P.		51	2.6
James W.		41	2.2
Gerald M.		29	1.8
Sue L.		32	1.9

The median of the grade achievement in numbers for this group was second year, six and five-tenths months which is equivalent to the educational age of seven years and nine months.

METROPOLITAN ACHIEVEMENT TEST

PRIMARY I BATTERY: FORM A

Table LI	Group B	Toy Library Activity	
Total Average	Grade Equivalent	Age Equivalent Years - Months	
Duane P.	2.7	7	11
Eleanor L.	2.5	7	8
Donald W.	2.3	7	6
Lawrence I.	2.5	7	8
Junior L.	1.8	7	0
Bobby G.	2.5	7	8
John P.	2.3	7	6
James W.	1.9	7	1
Gerald M.	1.8	7	0
Sue L.	1.6	6	9

The median of the achievement of this group was second year three and five-tenths months which is equivalent to the educational age of seven years, six and five-tenths months.

METROPOLITAN ACHIEVEMENT TEST

PRIMARY I BATTERY: FORM A

Table LII Group C Control Group (No Activity)

Test One (Word Picture)	Score	Grade Equivalent
Tommy W.	30	2.5
Gracene B.	33	2.7
Bobby B.	31	2.6
Edward L.	30	2.5
Kenneth W.	33	2.7
Donald H.	16	1.8
Homer C.	27	2.3
Ralph D.	8	1.4
Rose R.	10	1.5
Melvin B.	11	1.5

METROPOLITAN ACHIEVEMENT TEST

PRIMARY I BATTERY: FORM A

Table LIII	Group C	Control Group (No Activity)	
Test Two (Word Recognition)	Score	Grade Equivalent	
Tommy W.	14	2.0	
Gracene B.	20	3.0	
Bobby B.	12	1.8	
Edward L.	16	2.2	
Kenneth W.	14	2.0	
Donald H.	9	1.5	
Homer C.	18	2.5	
Ralph D.	7	1.4	
Rose R.	7	1.4	
Melvin B.	8	1.5	

METROPOLITAN ACHIEVEMENT TEST

PRIMARY I BATTERY: FORM A

Table LIV	Group C	Control Group (No Activity)	
Test Three (Word Meaning)	Score	Grade Equivalent	
Tommy W.	17	2.1	
Gracene B.	19	2.3	
Bobby B.	13	1.8	
Edward L.	25	2.9	
Kenneth W.	10	1.6	
Donald H.	10	1.6	
Homer C.	14	1.8	
Ralph D.	0	1.0	
Rose R.	9	1.5	
Melvin B.	3	1.2	

METROPOLITAN ACHIEVEMENT TEST

PRIMARY I BATTERY: FORM A

Table LV	Group C	Control Group (No Activity)	
Reading Average	Grade Equivalent	Age Equivalent Years - Months	
Tommy W.	2.2	7	5
Gracene B.	2.7	7	11
Bobby B.	2.2	7	5
Edward L.	2.5	7	8
Kenneth W.	2.1	7	3
Donald H.	1.6	6	9
Homer C.	2.2	7	5
Ralph D.	1.3	6	4
Rose R.	1.5	6	7
Melvin B.	1.4	6	6

The median of the average reading grade achievement for this group was second year, two months which is equivalent to the educational age of seven years and five months.

METROPOLITAN ACHIEVEMENT TEST

PRIMARY I BATTERY: FORM A

Table LVI	Group C	Control Group (No Activity)	
Test Four (Numbers)	Score	Grade Equivalent	
Tommy W.	48	2.5	
Gracene B.	53	2.7	
Bobby B.	51	2.6	
Edward L.	52	2.7	
Kenneth W.	34	2.0	
Donald H.	28	1.8	
Homer C.	40	2.2	
Ralph D.	22	1.6	
Rose R.	31	1.9	
Melvin B.	19	1.5	

The median of the grade achievement in numbers for this group was second year, one and five-tenths months which is equivalent to the educational age of seven years three and five-tenths months.

METROPOLITAN ACHIEVEMENT TEST

PRIMARY I BATTERY: FORM A

Table LVII	Group C	Control Group (No Activity)
Total Average	Grade Equivalent	Age Equivalent Years - Months
Tommy W.	2.4	7 - 7
Gracene B.	2.7	7 - 11
Bobby B.	2.3	7 - 6
Edward L.	2.6	7 - 10
Kenneth W.	2.0	7 - 2
Donald H.	1.7	6 - 10
Homer C.	2.2	7 - 5
Ralph D.	1.4	6 - 6
Rose R.	1.6	6 - 9
Melvin B.	1.4	6 - 6

The median of the achievement of this group was second year, one and five-tenths months which is equivalent to the educational age of seven years and four months.

At the close of the third nine weeks period beginning March 21, 1938, and ending May 20, 1938, the Reading Library Group showed not only the greatest improvement in reading but also in numbers.

The medians of the average reading achievement for the three groups were as follows:

	Grade Equivalent Years - Months
Reading Library Activity Group - - - - -	2 - 5.00
Toy Library Activity Group - - - - -	2 - 2.33
Control Group - - - - -	2 - 2.00

The improvements made in the reading medians of the three groups during the third nine weeks period were as follows:

Reading Library Activity Group - - - - -	5.33 Months
Toy Library Activity Group - - - - -	4.00 Months
Control Group - - - - -	4.00 Months

The medians of the number achievements for the three groups during the third nine weeks period were as follows:

	Grade Equivalent Years - Months
Reading Library Activity Group - - - - -	2 - 6.5
Toy Library Activity Group - - - - -	2 - 6.5
Control Group - - - - -	2 - 1.5

The improvements made in the number medians of the three groups during the third nine weeks period were as follows:

Reading Library Activity Group - - - - -	3.5 Months
Toy Library Activity Group - - - - -	3.0 Months
Control Group - - - - -	2.0 Months

The great improvement shown in the number work of the reading Library Activity Group for the third period was due probably to the interest that the children had in the Number Stories Reader in the reading library. This book was of first reader difficulty and was read very little before this period of the experiment.

The medians of the average achievements of the three groups made during the third nine weeks period were as follows:

	Grade Equivalent Years - Months
Reading Library Activity Group - - - - -	2 - 6.0
Toy Library Activity Group - - - - -	2 - 3.5
Control Group - - - - -	2 - 1.5

The improvements made in the average achievement medians during the third nine weeks period by the three groups were as follows:

Reading Library Activity Group - - - - -	4.1 Months
Toy Library Activity Group - - - - -	4.0 Months
Control Group - - - - -	3.0 Months

In order to determine whether the pupils in each group were making progress in their school work according to their ability and also to make a comparison of the three groups the following tables were made to show the achievement quotient of each group. The tables also show the child's mental age at the close of the experiment.

Table LVIII Group A Reading Library Activity

	Mental Age Years - Months	Achievement Quotient
Betty H.	8 - 6	93
Myrna C.	8 - 1	98
Kyle T.	7 - 7	101
Mary H.	7 - 2	114
Shirley P.	7 - 1	110
Billy R.	6 - 8	105
Delcia L.	6 - 6	115
Emily L.	6 - 5	125
Billy T.	6 - 2	119
Donnie S.	6 - 2	120

The median of the achievement quotient of this group was 112.5.

Table LIX Group B Toy Library Activity

	Mental Age Years - Months	Achievement Quotient
Duane P.	9 - 0	89
Eleanor L.	7 - 8	100
Donald W.	7 - 9	97
Lawrence I.	7 - 4	104
Junior L.	6 - 11	101
Bobby G.	6 - 11	111
John P.	6 - 10	109
James W.	6 - 3	114
Gerald M.	6 - 2	114
Sue L.	6 - 0	112

The median of the achievement quotient of this group was 107.

Table LX	Group C	Control Group (No Activity)
	Mental Age Years - Months	Achievement Quotient
Tommy W.	8 - 4	91
Gracene B.	8 - 3	96
Bobby B.	8 - 1	93
Edward L.	7 - 9	101
Kenneth W.	7 - 0	102
Donald H.	6 - 9	101
Homer C.	6 - 9	111
Ralph D.	6 - 3	104
Rose R.	6 - 3	108
Melvin B.	5 - 4	122

The median of the achievement quotient of this group was 102.

The achievement quotient of the Reading Library Group was five and five-tenths points higher than the Toy Library Group, and ten points higher than the Control Group. This high achievement quotient of the Reading Library Group was probably due to the fact that since their activity centered around reading almost entirely it created an enthusiasm and incentive for the subject, and this interest in the tool subject would be very advantageous for any group.

The medians of the achievement quotients for the three groups at the close of the experiment were as follows:

Reading Library Activity Group	- - - - -	112.5
Toy Library Activity Group	- - - - -	107.0
Control Group	- - - - -	102.0

The results of this investigation as shown by the standard tests given at the close of the experiment show the median of the average achievement of the Reading Library Group two and five-tenths months higher than the Toy Library Group, and four and five-tenths months higher than the Control Group. This indicates that the Reading Library Activity is a very desirable and worth while activity in the first grade.

While the Toy Library Group did not make as rapid progress in achievement in the tool subjects of the first grade as the Reading Library Group, they had two months higher median of achievement than the Control Group, which justifies it as a desirable activity in the first grade. Also, in the Toy Library Activity there are more opportunities for valuable training in citizenship, cooperation,

unselfishness, judgment, safety, ability to think, acting for the good of the group, and patience. These qualities can not be measured objectively.

In conclusion, it seems probable from this study that the activity program fully justifies itself as a means of teaching the fundamental skills, and the writer feels that the results of this experiment show the value of well-planned directed activities in the first grade.

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