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Children's preferences in types of assignments

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Thesis

CHILDREN'S PREFERENCES IN
TYPES OF ASSIGNMENTS

by

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CHAPTER I

INTRODUCTION

NATURE OF THE PROBLEM

PURPOSE OF THE INVESTIGATION
It is well known that until recent years pupils had no choice in the selection either of the subject of their studies or the manner in which they were to be worked out. Education was provided by adults and carried out in relation to their ideas of what was considered best and wisest for the child. The pupil came to school to learn what was set before him with little or no consideration of his interest in the matter. As educators began to understand the importance of children as individuals, education underwent many changes. Projects, units, and centers of interest were introduced with the idea of capturing the child's interest and relating the study to his experience in living. All this helped to turn education away from its adult standard wherein the child was considered a miniature adult to the idea that education for the child should be on the child's level and within his interest and comprehension. Students consequently were not expected to accomplish adult performance which was beyond their ability. Materials were simplified to meet their needs. No longer were children little men and women, but youthful individuals with their own interests, desires, and lives that had not sprung full grown at birth, but were to be developed
An old man was standing in the street. He looked tired and his clothes were ragged. He was holding a piece of bread in one hand and a cup in the other. There was a lot of noise and commotion around him, but he seemed oblivious. A woman approached him and offered him a few coins. He took them and smiled gratefully. The woman turned and walked away, but the old man's smile lingered on his face for a moment longer.

The sun was setting and the streetlights were starting to flicker on. A group of children ran past him, their laughter echoing in the quiet of the evening. The old man watched them go, his eyes filled with longing. He had always loved children, their energy and innocence. But now, he knew, it was too late for him. He had lived too long, too hard. His body was broken, his mind was faded. He was old, and he was alone.

As the night fell, the old man sat down against a wall. He closed his eyes and let the darkness envelop him. He knew that soon, very soon, it would be over. The end was coming, and there was nothing he could do about it. He had lived a long life, he had loved deeply, he had laughed and cried. He had seen the world change around him, and he had tried to adapt. But now, it was time to let go.

The old man's head lolled back, and he closed his eyes for the last time. The world faded away into a peaceful darkness, and the old man was finally at peace.
as they advanced in school.

However much has been said and written about organization and methods of teaching subject matter, it appears that few studies have been made about the interests and attitudes of children in relation to their preferences in study assignments. It is known in some cases what children like to study, although too few investigations are to be found in that field. Little is known beyond personal observation about the way in which children prefer to work out assignments.

Because of the apparent lack of studies as indicated above, this student desired to investigate children's study preferences. It was then with the approval and guidance of the thesis advisor that the study presented here was made.

PURPOSE

The purpose of this study is to determine if possible how children regard the definite method of handling assignments as described below:

1. Individual versus plural texts
2. Group versus partner participation
4. Activity types of assignments

A. Reading  
B. Writing  
C. Talking  
D. Drawing  
E. Constructing

The student desired to attempt to discover children's preferences in the previous classification in relation to the following:

1. Grade preferences in types of assignments
2. Sex preferences in types of assignments
3. How intelligence influences preferences
4. Where changes in preferences of assignments occur and what bearing age has on them.

ORGANIZATION

In the following chapters will be recorded:

- the related studies;  
- the construction and the administration of the survey;  
- the presentation and the analysis of data;  
- educational implications;  
- suggested further study;  
- summary and conclusions.

Although the student during teaching experience in the schools was interested in pupil progress, and methods of instruction which furthered that progress, the opportunity to participate in the Educational Clinic at Boston University brought that interest to a focal point through watching the children work, and culminated in a desire to investigate the
The present text is not legible due to the quality of the image. It appears to be a page from a document, possibly containing paragraphs of text, but the details are not discernible.
field of preferences in relation to assignments. An interest in pupil preferences brought the following important questions to the student. Is it enough that educators through careful study have determined to their satisfaction the types of assignments to be used? Should not children's reactions to these assignments be searched out in order to allow children to use their full capacities? Should further study concerning test instruction similar to this be developed for use by the classroom teacher at the beginning of a unit for determining the way in which her group will best undertake their study, and aid her in understanding her group?

Since little research in this field was in evidence, and since it was considered advisable to know more about the way in which children react to assignments, it was deemed advisable to undertake this study. Before any organized contribution could be considered by the student, research in the field of related studies was undertaken. The following chapter presents the results of the study of the literature described above and may be used as a basis of understanding subsequent materials.
CHAPTER II

RELATED STUDIES AND PREVIOUS RESEARCH
CHAPTER II

RELATED STUDIES

Because no direct studies could be found in the specific field being investigated by the student, the related literature will be presented in more careful form than may ordinarily be considered justifiable. The related readings are organized under the following categories in relation to their bearing on this study:

1. Interest  
2. Individual instruction  
3. Text books  
4. Reading abilities  
5. Handwork or Construction

INTEREST

Since children's interests have a direct bearing on desire and study, it is well to consider what research can reveal on this point. John Dewey states: "If we can secure interest in a given set of facts or ideas, we may be perfectly sure that the pupil will direct his energies toward mastering them." 1/ This is a positive and significant statement and it causes some question to arise in the mind


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of the student as to what factors contribute to interest on the part of the pupil. Dewey later answers this in part by his statement: "If we can discover a child's urgent needs and powers and if we can supply an environment of materials, appliances and resources; physical, social, and intellectual, to direct their adequate operation, we shall not have to think about interest."  

Since the needs of the child furnish clues which lead to an understanding of his interests and help in planning effectively for his progress, it is interesting to note that emphasis in education has shifted away from materials to be used and lesson plans which were all too readily constructed for their own sake only, to the needs of the child. Yoakam says: "The emphasis has shifted away from material to be studied, to the child,—his needs and his method of learning."  

INDIVIDUAL DIFFERENCES  
The last statement leads us directly into the subject of individual differences. In the older type of school, classes were conducted as a whole unit without regard for the individual and were more concerned with mass education. Today, assignments seem to group themselves naturally into three categories:-

1. The class as a whole
2. Small groups
3. Individuals

Yoakam feels that, "With young children, it is doubtless well for the teacher to help them get settled, get materials ready and start to work. With older pupils, more and more responsibility should be thrown upon them for working independently and with a minimum of direct suggestion and supervision on the part of the teacher." 1/ It is quite readily conceded that children entering school directly from the home are not sufficiently able, because of past parental supervision and direction to fit immediately into the situation, and, therefore, for some time, need close contact with the teacher until they become sufficiently accustomed to school routine to take on small tasks with a minimum of instruction. As this ability increases, they can be given more and more responsibility under wise guidance and so build up the desired power of working alone. In this same reference, Yoakam says still further: "During these middle grades, pupils should be learning how to work independently for longer and longer periods." 2/ This is the goal set for middle grades as an entrance into understanding of the types of work to be undertaken in further education. In 1939, Olson and Kembly conducted a study to

2/ Ibid. p.179.
discover whether pupils who worked independently or those who worked under supervision at stated intervals, gained the most in factual learning. The outcomes of the study indicated that:

1. Individuals aided at definite intervals by the teacher gained most factual knowledge.
2. Individuals aided only when they asked for help gained least.
3. Group methods made some children depend on the more able members of the group.

From this study, it would seem that supervised individual study was most helpful and that it was advisable to keep some definite contact with a student during his work. It is often true that the more capable members of a group either with or without intention take the initiative and sometimes deprive others of that privilege as well as the opportunity to gain in confidence and ability through activity. It is advisable in some manner to rotate group responsibility in order that all may participate and derive just benefit therefrom. Each individual has some contribution to make to the group, and should be encouraged to express his ideas.

Zirbes says: "Individual differences are not undesirable; they are inevitable because of the fact of human nature and growth. We are simply wrong in our earlier

assumption that large classes could be more efficiently treated as masses. Time was ... that the efficiency of mass instruction was not challenged." ¹/

Heffernan indicates that in democratic society, an individual must find his happiness and freedom as a participating member of the social group. ²/ If the school is to serve as the instrument for the building of democratic citizens, it is natural to conclude that the aims and the ideals of that medium are to carry out democracy in its dealings, thus placing its pupils in direct contact with democratic situations, not teaching for the future alone, but adapting the present events to that outcome. Thus, as Heffernan states, the pupil must actively take part in whatever group or situation he finds himself and be a contributing part to the whole, and therefrom derive his satisfaction.

Kottmeyer in his study of reading instruction in the Saint Louis Schools says:—

The chronological promotion posits a responsibility for making systematic provisions for the individual differences of ability among children. Such promotional policy therefore implies that the traditional method of providing quantities of similar reading materials to classrooms is no longer serviceable. The grave need of adjusting instruction and materials to the individual differences is based on the incontrovertible axiom of reading instruction:—if children deal with material at the level where they are, they will improve—if it is

¹/ Laura Zirbes, "Individual Differences Among Children and Their Relation to the Reading Program", Adjusting the Reading Program to the Individual, Conference on Reading, University of Chicago, 1941. P.67.
- Physical education and outdoor recreation
- Culinary arts and baking
- Fashion design and sewing
- Creative writing and journalism
- Graphic design and animation
- Computer programming and coding
- Environmental science and conservation
- Music studies and performance
- Social work and community service
- International studies and linguistics
- Business management and entrepreneurship
- Sports management and coaching
- Entertainment industry and media production
- Renewable energy and sustainability
- Robotics and automation
- Archaeology and paleontology
- Special education and inclusion
- Forensic science and criminology
- Game design and development
- Comparative literature and translation
- Neurosciences and mental health
- Artificial intelligence and machine learning
- Comparative religion and spirituality
- Digital humanities and cultural studies
- Nanotechnology and materials science
- Space exploration and astronomy
- Viticulture and enology
- Molecular biology and biotechnology
- Comparative animal behavior
- Geochemistry and mineralogy
- Agricultural science and food security
- Health and wellness studies
- Cybersecurity and information technology
- Legal studies and advocacy
- Postcolonial theory and cultural criticism
- Human rights and social justice
- Memory studies and neuroscience
- Women's studies and gender equality
- Comparative political economy
- International food and culture
- Transnational and cosmopolitan studies
- Cultural tourism and hospitality
- American Indian studies
- Indigenous knowledge and traditions
- Maritime studies and oceanography
- Energy and environmental regulation
- Comparative media and popular culture
- Multicultural and inclusive education
- Climate change and sustainability policy
- Global health and public health interventions
- Conflict resolution and peace studies
- Digital human rights and global communications
- Global environmental policy and sustainability
- Language and cultural diversity
- Environmental law and policy
- Oceanic studies and marine biology
- Agricultural sustainability and food systems
too difficult, they will not improve. 

Such a situation as mentioned above stresses the need of individual instruction, the necessity of taking the child where he is and carrying him as far as he can go. Each teacher must in turn be ready to carry on such a program and so become not a grade teacher, but a teacher of many grades. However much work this entails, it is one possible solution that can be worked out, in all fairness to the individual. One of the valuable aids to such a situation is to have a quantity of material on varying levels with which to work. Although many educators favor individual instruction, there is much to be said for group instruction when used intelligently and with a definite purpose in mind. Betts contends that:

Highly individualized instruction often misses the point because opportunities for give and take are missing. Differentiating instruction must needs recognize the total needs of each individual. In any effective plan for differentiating instruction, provision must be made for class, small group and individual activities. All class activities should capitalize on individual and group contributions and motivate each to improve his contribution. Grouping makes possible appropriate instruction. Children are less likely to be frustrated by activities too easy or too difficult.

Since, in every group, there are varying abilities even when whole classes are supposedly grouped homogeneously, some provision has to be made for the lowest and the highest extremes of the class. This leads directly to the question of what materials are to be used to supply the different

levels, and good judgment decides that one source of information will not suffice.

Text Books

It is a point of contention whether mass education prolonged the use of single textbooks or whether single text books are not in part responsible for the continuance of mass instruction. In taking into account individual differences in pupils, it is necessary that a variety of material be supplied to meet the needs of the varying abilities of the group. Furthermore, it seems to the student that children should perhaps be allowed to choose interesting reading on their own level in order to be able to contribute intelligently to the group. Choosing his own materials should develop in the child a critical judgment, an evaluation of numerous related statements, and an appreciation of different points of view as presented in multiple texts. There should be a quantity of materials as well as a variety of them within the child's reach. Yoakam states:—

The differentiating of assignments on the ability levels must take into consideration the character and needs of pupils on these levels. A blanket assignment for all children regardless of ability is not good practice because such an assignment is bound to be too hard for some and too easy for others. Assignments should be so made that opportunity for extensive reading and other types of enriched experience is left open for children of average intelligence. Co-operative assignments when successful seem to be the highest type of assignment now in use. 1/

While no mention before this has been made of behavior in relation to assignments, it is easy to conceive that it has direct bearing on the situation. If the task is too easy, it leaves leisure time for the student which may not be wisely used if he is not properly supervised or trained to turn to other work to be completed. Equally as much bearing does the too difficult assignment have on behavior, for it discourages the pupil, frustrates him and often causes such confusions that he has to unlearn much that has been taught, in order to make progress. This situation has been most apparent in the work of the Clinic where, before coming, some children have progressed too quickly at the expense of mastery. In view of these facts, it is easy to understand that one lesson, however well learned, or planned, will not cover the abilities and levels of all the group. This necessitates the planning of many levels of assignment on the same topic in order to make it possible for each child to work to his full capacities.

To return to the first paragraph of the related studies, it is noted again that interest is one of the most important factors in the planning of assignments. In regard to the differentiating of assignments, Thorndike says that a means for providing for improvement of reading in the upper levels of interest and intelligence is to have an abundance of suitable books and magazines in school and to permit children to read as they choose. 1/

If we allow for the passage of time, considering the design, execution, and operation of the system, we must also consider the ethical implications of our actions. The very nature of technology, and its potential for good and evil, should never be underestimated. We must always be mindful of the consequences of our decisions and actions, and strive to ensure that our work contributes to the betterment of society.

In conclusion, the future of our technology and its impact on society is fraught with both opportunity and risk. It is up to us to ensure that we use technology in ways that promote the well-being of all people, and that we take steps to mitigate any negative effects. Only by doing so can we truly harness the power of technology for the betterment of humanity.
While many of the more forward-looking schools are already well supplied with a variety of material and also with teachers who understand how to use that material wisely, there are still schools that because of lack of knowledge, finances, or interest, continue to use older methods. In such cases, one text book does for the entire class and it is accepted as the only authority or information on the subject to be studied. Zirbes apparently has this in mind when she states:

It is still too easy to find classes in which the class keeps the place while individual pupils take their turns at oral reading... There is nevertheless abundant evidence to indicate that every child needs to read at more than one level... Conditions are so different that we must free ourselves... and let our elementary school children come out of the bondage of lock-step reading lessons and basic grade readers into the fine heritage of abundant reading materials.... book resources in a classroom book collection and an accessible library should be sufficiently ample to permit guidance and selection of free reading in terms of a far wider range of individual abilities and interests than that usually considered adequate.... flexible resources with easier and harder books on the same theme are more conducive to provision for individual differences than are single text books. 1/

This statement agrees with Yoakam and his opinion of differentiating of assignments to meet the needs of every individual of the group. And again on this same subject, Betts feels that the guidance is entirely in the hands of the teacher and that it is for her to decide how the lesson shall be apportioned. He says:—"All children from a given class cannot

1/ Laura Zirbes, "Individual Differences Among Pupils and Their Relation to the Reading Program", Adjusting the Reading Program to the Individual, (Conference on Reading, University of Chicago, Chicago, Illinois, 1941), p.66.
and a change in composition of the air. The results of the
analyses are given in Table I. The data show that the 
moisture content of the air in the closed room was 
considerably lower than in the open one. The 
temperature of the air in the closed room was also 
lower than in the open one. The concentration of 
the carbon dioxide in the air of the closed room was 
considerably higher than in the open one. The 
concentration of the carbon monoxide in the air of 
the closed room was also higher than in the open one. 
The concentration of the nitrogen in the air of the 
closed room was lower than in the open one. The 
concentration of the oxygen in the air of the closed 
room was also lower than in the open one.
profit from the use of the same book. A more judicial use of basal text books should be made by the classroom teacher...

...Teaching has to be based on some other basis than hearing lessons from a single text book.... As a part of a socialized procedure, pupils are guided to the location, selection, evaluation, and organization of information. Pupils are guided to reading on their own level." 1/

Hearing recitations from a single book may not lead to any breadth of opinion on the part of the student, but it may, on the contrary, result in a narrow-mindedness through not being able to select material, judge content, benefit from more than one point of view, or organize material. The opinion of only one writer does not lead to any thought-provoking development for the child, and it deprives him of the opportunity to build a correct critical attitude toward any opinion. This leads in life to the man who is readily willing to take any opinion as true and accurate instead of challenging it or comparing it with another to discover the truth of it, or the authority upon which it is based. Since most of our thinking in life should be critical in the correct sense of the word, it is an ability which should be developed early in children in order to prepare them to think intelligently on problems met. It is certain that limitation to a single text book and one viewpoint is a hindrance in evaluations.

READING ABILITY

Since the use of multiple texts is indicated by the opinions of the authorities already referred to, it can be assumed that with more books to read, there will be more reading done. Several studies which have been undertaken on the matter of reading, ability and quantity, show that bright children do more reading than average children, and that they in turn do more reading than slow children. Robert Thorndike's study shows that the most conspicuous differences in reading occur between the sexes, not between the ages or intelligences.

This might possibly be accounted for in part by the types of play in which children indulge. It is natural for the girl to be interested in the finer, smaller and quieter types of occupation, while the boy, with his love of sports and the outdoors, indulges in that pastime which exercises the large muscles. Consequently he is not interested to sit quietly and pore over books. Certainly, if it does not account for the difference in the ability, it does measure difference in the amount of reading that is done by the two sexes.

HAND WORK OR CONSTRUCTION

Often much reading is done purely for pastime and it sometimes justifies itself in this matter. However, it

should not be an end in itself, but generally lead to some outcome or tendency to action. Reading should be done for the purpose of enriching life and opening wider horizons to the child of the life that is going on about him and in which he can take part. In the study that Lyons made in the "Evaluation of the Relative Appeal of Reading Assignments", she reports that good readers preferred assignments involving construction to a greater extent than did poor readers. 1/

In his report to the Chicago Reading Conference, Corey states: -

"While it is true that at this age, many children develop a deep love of reading, and some of them are disposed to spend most of their time with books, a great majority still get maximum enjoyment from manipulating materials, making objects, sewing, building, taking things to pieces, going places and seeing things." 2/

If we accept Corey's thesis in relation to reading for action, then it seems to follow that, as a result, reading should furnish a logical goal for the reader, thus giving real satisfaction at the end of the reading.

Since some educators contend that there is a place for class instruction, while others favor group or individual

2/ Stephen M. Corey,"Characteristic Interest and Needs of Pupils That Aid in Defining the Nature and Scope of the Reading Program", Adjusting the Reading Program to the Individual, (Conference on Reading, Chicago University, 1941), p.51.
lessons, it is important to discover how children react to such decisions for, in truth, they as individuals are the ones to be most affected by the types of educative method decided upon for them by professional educators. Many authorities have decided what is best for the child without being concerned about his feelings in the matter. In this way, education becomes something for children to assimilate, while, on the other hand, if it were influenced by their interests, they would seek it out for itself alone and there would be little or no coercion about learning. Now it is important to find out what the child thinks about how he is to be taught in order that work may be planned to meet his interest and needs. With such thought in mind, this study was devised.

SUMMARY

Investigations concerning types of assignments have shown a definite shift from the mass to the individual and from the use of one text book to multiple texts, and from definitely limited assignments to those that allow a freedom of choice. These facts take on a significance in the light of the knowledge that newer practices are finding a welcome as well as an understanding use with more and more teachers, and that they are spurring those individuals who are interested in education, on to a better and more sympathetic appreciation of the individual and his needs.
Considering then the facts revealed in the related literature reviewed, the importance of the interest and preferences of the child in relation to his assignments takes on impressive proportions.

When the studies described in this chapter on related readings had been perused by the student, the knowledge gained was used as a background for the development of the instrument described in the following chapter.
CHAPTER III

METHOD AND ADMINISTRATION OF INVESTIGATION
CHAPTER III

METHOD AND ADMINISTRATION OF INVESTIGATION

In any experiment or investigation, the measuring tool or tools must be understood so that an evaluation of results may be undertaken. An explanation of the construction of the tests is given in this chapter.

Selection of Population

In order to carry out the study as indicated in Chapter One, it was necessary to construct an instrument which would reveal children's preferences. The measure used in this investigation was designed to reveal the interest of children in relation to the various types of assignments with which they had to work. It was also designed to reveal which of the activities are most interesting to pupils of grades 4, 5, and 6:- individual or plural texts; group or partner participation; pupil or teacher selection of material and types of varied assignments such as; reading, drawing, constructing, writing, and talking. Middle grades instead of primary grades were selected as the level for such an investigation because the student agreed with Yoakam who so aptly said: "With young children it is doubtless well for the teacher to help them get settled, etc..." During these middle grades, pupils
should be learning to work independently for longer and longer periods of time."\textsuperscript{1} The younger children are definitely not ready for the responsibility that is expected and demanded by multiple assignments, so it was not deemed advisable to use younger children for the investigation. Another reason for selecting a middle grade population was that the student had worked with children of the middle grades and was better acquainted with their assignments, interests, and techniques.

Construction of the Test

The first test constructed (Appendix A in the Appendix) consisted of four sets of preferences. The first set dealt with a choice between a single text or a multiple text. In order to carry out the idea of a single text, one book title was given for choice, and for the multiple text, three or four titles were given. These titles for the most part were fictitious, but made to suit the subject under consideration. The second set of preferences, group as opposed to partner participation, was carried out in the same way with two titles named for the group participation and two different ones for partner participation. In the third set of preferences, self-directed work as against teacher-directed work, three sets of titles were written for the first choice and three different ones for the last.

When this test (Exhibit A) was considered, it was

\textsuperscript{1}Gerald A. Yoakam, Improvement of the Assignment, Reading and Study (New York: The MacMillan Company, 1939), p. 179.
thought that the arrangement of titles might influence the choice through the fact that one of the set of titles might prove more interesting than the other. As a result of this, the whole inventory was rewritten and statements instead of titles were substituted. Exhibit B shows this change in the instrument. While each set of choices contains statements about the same topics, they were arranged so that those choices concerning one book contained but one statement, while those concerning multiple texts contained several statements. This continued through the test.

Again, it was felt that because there was one topic to choose from in one choice, while others had several, that this might influence the preference.

A third arrangement was made (Exhibit C) in which each pair of choices within a preference had the same statements to choose from, thus eliminating the possibilities of statement placement or number of statements to become a factor. This test was taken to a school and given to six children. Corrections that are noted later on in this explanation were made and a fourth and last test (Exhibit D) was constructed. It was now felt that the test was in a more refined state where interest would not be a governing factor to influence choices, and differing numbers of statements would not influence choice since in each pair of choices, the same statement for number and similarity was used.
The last set in the test containing ten choices was left much the same throughout the various revisions. It contained more opportunities of choice than the others due to the need for rotating the items. In order that there be nothing here to influence the choice, all items were carefully rotated.

The vocabulary burden was considered on the basis of a fourth-grade level, although it was intended to be used in grades five and six. This was one of the reasons for trying out the test—to determine how the vocabulary fitted in the different grades.

The following are the changes suggested by the children which have been incorporated into the final revision of the test.

Test I- Item 2 B was changed from— "Have everybody find out" to "Have all the children read the same book."

Test I- Item 3 B was changed from— "Have all the children read from different books" to "Have each child read many different books."

Test I- Item 4 A was changed from— "Have all the children use the same set of books" to "Have all the children read the same book."

Test I- Item 5 B was changed from— "Have all the children read together from one set of books" to "Have all the children read the same book to find out."
Test II- Item 3 , directions, was changed from "aviation" to "flying."

Test II- Item 3 B was changed from "Work with your chum" to "Work with a partner."

Test II- Item 4 A was changed from "Choose a friend" to "Work with a partner."

Test II- Item 5 B was changed from "Everybody in the room choose a partner" to "Work with a partner."

Test III- Item 3 A was changed from "Be responsible for finding " to "Find books yourself."

Test III- Item 5 was changed from "How would you choose to get the information" to "How would you choose to get the story?"

Test III- Item 5 A was changed from "Find the material yourself " to "Find books yourself."

Test IV- Item 2 C was changed from "Make a soap or clay model of a fishing boat " to "Make a small soap or clay fishing boat."

Test IV- Item 4 A was changed from "Make a model of a Swiss house" to "Make a model of a Swiss house or some other Swiss thing."

Test IV- Item 5 was changed from "A program about airplanes is to be prepared" to "You are going to plan a talk about airplanes."

Test IV- Item 5 A was changed from "Read about pursuit planes" to "Read about war planes."
Test IV- Item 7 A was changed from "Read about Chinese junks and other boats" to "Read about Chinese boats called junks."

Test IV- Item 8 B was changed from "Make a model of a small donkey out of wood or soap" to "Make a small donkey out of soap or wood or clay."

Test IV- Item 9 A was changed from "Make a model of a small barn" to "Make a model of a small barn or other things found on the farm."

Test IV- Item 10 C was changed from "Read the story about Peter Cooper's Tom Thumb engine" to "Read the story about Peter Cooper's first engine."

It was felt that all the above changes permitted a better understanding of the meaning of the items and allowed a clearer interpretation on the part of the pupil. Since most of the changes came directly from the children after being talked over seriously, it was considered advisable to make the revision and to include the change of terms in order to prevent any confusions that might arise.

The time element as well as comprehension was checked and it was found that twenty minutes seemed to cover adequately the testing time, including all preliminary instructions. The data obtained from the trial test was not used in the final results because this was given in different buildings and to different children. The test is constructed as a group test,
not as an individual one, though it could be so used if one desired to check the preferences of a single child.

Final Revision

Section I. This part consists of five sets, each one a choice between the use of one class text book to be used by all the children and many different text books available for use by all the children. In each pair of choices, the lesson planned was the same, but the manner of working was different. Each pair of choices was rotated in order that the choice should not be influenced by statement position. A sample of the first section follows.

1. Your class is to study about cotton. Would you like best to:

( ) Have all the children read the same book to find out about raising cotton, the cotton gin, cotton prints.

( ) Have each child read many different books to find out about raising cotton, the cotton gin, cotton prints.

2. The class is going to make a study of China. Would you like to:

( ) Have each child read many different books to find out about Chinese fishing, Chinese floods, life in China.

( ) Have all the children read the same book to find out about Chinese fishing, Chinese floods, life in China.

3. The children are preparing a program. Would you like best to:

( ) Have all the children read the same book to find out about rocket planes, transport planes, passenger planes.
Have each child read many different books to find out about rocket planes, transport planes, passenger planes.

4. You are preparing a talk for Lincoln's birthday. Which would you like best to do?

( ) Have all the children read the same book to find out about Lincoln and the pig, Lincoln the storekeeper, Lincoln and the trunk.

( ) Have each child read many different books to find out about Lincoln and the pig, Lincoln the storekeeper, Lincoln and the trunk.

5. Your class is studying about Switzerland. Which way would you like to work?

( ) Have each child read many different books to find out about Swiss watches, mountain climbing, Saint Bernard dogs, William Tell.

( ) Have all the children read the same book to find out about Swiss watches, mountain climbing, Saint Bernard dogs, William Tell.

Section II. This part consists of five sets, each one containing a choice between work arranged for small groups and studies arranged for pairs. Again, in each pair of choices, the subjects were the same, but the manner of working was different. The choices were rotated to avoid influencing decisions by placement. A sample of this part of the investigation follows.

1. The class is preparing to give talks on airplanes. Would you like best to:

( ) Have small groups look up about spotting airplanes, airplanes in war, rocket planes.

( ) Choose a partner and look up about spotting airplanes, airplanes in war, rocket planes.
2. The class is going to prepare an assembly program about rubber. Which way would you choose to help find things about rubber?

( ) Work with a partner to find out where rubber comes from, what rubber is used for, toys that are made of rubber.

( ) Work with a small group to find out where rubber comes from, what rubber is used for, toys that are made of rubber.

3. The class is preparing to give some talks on flying. Which would you choose to do?

( ) Work with a small group and read about airplane pilots, airplane carriers, mail planes.

( ) Work with a partner and read about airplane pilots, airplane carriers, mail planes.

4. A man is coming to talk about sheep ranching. Which way would you choose to get information before he comes?

( ) Work with a partner and look up about how dogs help the shepherd, life on a sheep ranch, how woolen cloth is made.

( ) Divide the class into small groups and read about how dogs help the shepherd, life on a sheep ranch, how woolen cloth is made.

5. Your class is studying about forests and lumbering. How would you choose to work?

( ) Make the class into small groups and find out about the dangers of the forest, life of the lumber jack, how lumbering is done.

( ) Work with a partner and read about the dangers of the forest, life of the lumber jack, how lumbering is done.
Section III. This part consists of five sets, each one containing a choice between having the teacher find and give material to the children or having the children search in many different places for a variety of material. In each pair the subject to be studied was the same, but the manner of finding it was different. The choices were rotated to avoid placement decisions. There follows a sample of this part of the investigation.

1. Your room is going to prepare a program for Washington's birthday. How would you choose to work?

   ( ) Find books for yourself, in the room, at the library, or at home about our first president, how people lived in Washington's time, Washington's journey to New York.

   (  ) Have the teacher find books and give them to you to read about our first president, how people lived in Washington's time, Washington's journey to New York.

2. An assembly program is to be given about coffee. How would you choose to work?

   ( ) Let the teacher find books for you that will tell you how coffee is raised, where our coffee comes from, people who work on coffee ranches.

   ( ) Look in several places until you find some books about how coffee is raised, where our coffee comes from, people who work on coffee ranches.

3. You are going to invite another grade in to hear you tell about what you have learned about Indians. Which way would you choose to work?
( ) Find books yourself about Indian hunters, life with the Indians, Indian games.

( ) Use some books the teacher looked up for you about Indian hunters, life with the Indians, Indian games.

4. Your parents are invited to hear the class tell about fishing. How would you choose to find things to tell?

   ( ) Have your teacher find some books for you to read about how cod fishing is done, a trip in a fishing schooner, fishing in the Atlantic Ocean.

   ( ) Look in different places yourself to find books about how cod fishing is done, a trip in a fishing schooner, fishing in the Atlantic Ocean.

5. If you were going to talk about coal mining, how would you choose to get the story?

   ( ) Find books yourself in several different places about how mining is done, dangers of mining, use of canaries in the mine.

   ( ) Have the teacher tell you what books to use to find out about how mining is done, dangers of mining, use of canaries in the mine.

Section IV. This consists of ten sets of three choices each. These choices concerned reading, drawing, writing, construction, talking and reading activities. The rotation system was again employed so that each item occurred five times in the test and was paired with every other item at least once. In each set, the choices concerned the same subject as it best fitted the way in which it was to be used. Included here is a sample of this part of the study.
1. If you were studying about dogs, would you like to:

( ) Read about My Eskimo Dog
( ) Draw a poster about Be Kind to Dogs
( ) Write a story about Bingo, My Pet Dog

2. Your room is to entertain another room, with a program about fishing. Which would you rather do to make it more interesting?

( ) Paint a picture of sailing boats
( ) Write a make-believe story about a trip on a fishing boat

( ) Make a small soap or clay fishing boat

3. The class is going to give a program about hobbies. Which would you like to do best?

( ) Write a story about My Hobby
( ) Make a model of soap or clay of your favorite hobby

( ) Give a talk about your hobby

4. Your room wants to find out about Switzerland. Which way would you like best to show what you have found?

( ) Make a model of a Swiss house or some other Swiss things

( ) Tell the story of some hero of Switzerland

( ) Read the story about William Tell and the apple
5. You are going to talk about airplanes. Would you like best to:

( ) Report about first airplanes
( ) Read about war planes
( ) Draw a picture showing different kinds of planes

6. Your class is planning to study about Indians. Which way would you choose to help?

( ) Draw a picture of an Indian Brave?
( ) Read about Indians in Maine
( ) Tell how the Indians made their fires

7. China is to be studied by the class. What would you choose to do?

( ) Read about Chinese boats called junks
( ) Tell the class about Chinese fishing
( ) Make a small Chinese boat out of clay or wood

8. You are going to entertain some visitors who have come to see what you have learned about South America. Which would you choose to do?

( ) Tell about a make-believe trip to the country where cocoa comes from
( ) Make a small donkey out of wood or soap or clay
( ) Write a letter about the Indians you saw in South America
9. The class is studying about farm animals. Which would you like to do best?

( ) Make a model of a small barn or other things found on the farm

( ) Write a story of your visit to the farm

( ) Make a picture of something you would see on the farm

10. The class is going to prepare a program about trains. What part would you like to do best?

( ) Write the story about the race between the horse and the engine

( ) Draw a picture about the different kinds of trains

( ) Read the story about Peter Cooper's first engine.

**Rotation System.** The following table indicates the rotation used in the test.

<table>
<thead>
<tr>
<th>Test</th>
<th>Rotation</th>
</tr>
</thead>
<tbody>
<tr>
<td>I</td>
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</tr>
<tr>
<td></td>
<td>b - a</td>
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<tr>
<td></td>
<td>a - b</td>
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<td></td>
<td>a - b</td>
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<td>b - a</td>
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<td>II</td>
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<td>a - b</td>
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<td>III</td>
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<td>a - b</td>
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<tr>
<td></td>
<td>b - a</td>
</tr>
<tr>
<td></td>
<td>a - b</td>
</tr>
</tbody>
</table>
Test IV. 

\[
\begin{align*}
& a - b - c \\
& b - c - d \\
& c - d - e \\
& d - e - a \\
& e - a - b \\
& a - b - c \\
& b - c - d \\
& c - d - e \\
& d - e - a \\
& e - a - b
\end{align*}
\]

Description of Population

The final tests were given to 546 children in heterogeneous groups in grades four, five, and six. There were approximately 200 children in each grade with intelligence quotients determined by the Kuhlman Anderson Intelligence Tests, Fifth Edition. These intelligence quotients ranged from 73 - 170. Chronological ages ranged from eight years eight months to thirteen years eight months. The schools chosen contained a population of children who were underprivileged, a middle economic group, and those from the higher socio-economic brackets.

Evaluation

The tests were evaluated on the following bases:-

1. Conclusions derived from grade results
2. Difference in interests between boys and girls as related to preferences
3. Preferences in relation to intelligence quotients
4. Preference of assignment as related to chronological age
With these directives in mind, the survey was conducted.

Administration of the Instrument

The test was administered by the investigator herself in all classrooms to the entire class. Twenty minutes was adequate time for the giving of directions and the completing of the test. All tests were corrected and tabulated by the investigator.

A copy of the test was given to each child. The pupils filled in the blank spaces for their name, grade, school, and age.

Test I. After the heading was completed, the attention of the children was called to the sample test at the top of the paper. It was noted that there were two choices, and that they were to indicate the one that met with their approval. No other discussion of the choice was made except to instruct the children to mark the one of which they approved. After that, they were told to mark their choices down the page and stop at the end of the page to wait for all to finish.

Test II. The children were told that this test was similar to the one on the first page, and after starting together, they marked their choices on this page, stopping before turning to the next page.
Test III. Directions for this were similar to those for the two previous tests.

Test IV. Since this test called for a choice of three items, the attention of the children was directed to this fact. They were asked to check their first choice only and to continue to the end of the test.

The test of choices met with the approval of pupils and teachers alike. The teachers expressed a desire to know the outcome of this study.

**Summary of the Chapter**

From the content of this chapter it can be seen that precautionary measures were used to prevent detrimental variables in relation to the different phases of the work and that care was used to plan for the comprehension of the children as well as to establish and maintain a logical and systematic program of procedure.

The extent to which these goals were reached is indicated in the following chapter which is devoted to statistical procedures and interpretation of results.
CHAPTER IV

ANALYSIS OF DATA
CHAPTER IV

ANALYSIS OF DATA

INTRODUCTION

In this chapter, the writer considers the interpretation of test results and their implications in regard to the effect of age, intelligence, grade placement, and sex differences on preferences in assignment.

In arriving at conclusions, choices were first tabulated at grade levels and according to ages in years and months with intelligence quotients indicated. Master sheets were prepared from which all data might be obtained. Graphs of the different groupings were made and results were recorded. In order that a clearer understanding of the picture might be had, preferences were separated from activities and the division of preferences dealt with first and the activities by themselves later.

Grade Preferences

In preparing this graph, the preferences of each grade were shown in juxtaposition with the other two grades rather than on separate graphs, in order that conclusions might be more easily drawn. One graph follows.
As can be noted from the graph --table above, there was a definite preference for multiple text in all the grades, giving a high critical ratio which makes the data extremely significant. This shows without doubt that children of grades four, five, and six prefer to have many texts to work with, many sources of material and many different levels of work, since in this way, the pupils are able to work with those materials that best fit their ability and interest, and so enable them to get the most from their efforts.

Group and partner participation nearly equal each other, but group planning shows a significant difference as is indicated by the critical ratio of 3.103. Since the difference
is not great, it would seem that either method would meet with the children's desire and could be used to advantage.

Self-directed work, or finding material for one's self gained more choices than having the teacher find the material for the pupils. The critical ratio of 23.076 shows a high significance in this choice and indicates that children prefer to be independent in the matter of finding materials. Since these figures are for grades four, five, and six, it would seem to point to the fact that age does not play too great a part in this independence, and that even on lower grade levels children enjoy doing for themselves.

GRAPH -- TABLE II

COMPARISON OF PREFERENCES IN GRADE VI

<table>
<thead>
<tr>
<th>Grade</th>
<th>%</th>
<th>S.E.</th>
<th>S.E.%</th>
<th>Dif.%</th>
<th>S.E.Dif.%</th>
<th>C.R.</th>
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<td></td>
</tr>
<tr>
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<td>.041</td>
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<td>.001600</td>
<td>.10</td>
<td>.056</td>
<td>1.785</td>
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<td>.040</td>
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<tr>
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<td>.028</td>
<td>.000784</td>
<td>.70</td>
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<td>15</td>
<td>.028</td>
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<td></td>
</tr>
</tbody>
</table>

This graph-table emphasizes strongly that multiple texts are in more favor than single texts; that there is no significant difference in the choices between group work and working with a partner; that there is a very definite choice between self-direction and teacher-direction in the finding of material in favor of independent work.
<table>
<thead>
<tr>
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<th>10-09-45</th>
<th>10-10-45</th>
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</tbody>
</table>

To make the table more readable, please note:

- Observe the dates and numbers for each entry.
- The table appears to be a record of some kind, possibly for a project or a historical event.
- Each row seems to contain a series of dates with no specific order.
- The table could be part of a larger document, possibly related to a research project or a report.
### COMPARISON OF PREFERENCES IN GRADE V

<table>
<thead>
<tr>
<th>Grade</th>
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<th>Diff. %</th>
<th>S.E. Diff.%</th>
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</tbody>
</table>

As in grade six, the preference for multiple texts is high, rising higher in grade five than in grade six. As in the previous grade, there is no great significance in the choice between group work or partner work. In grade five, the preference for self-direction is not so great as in grade six, but the figures show significant data in this choice.

### COMPARISON OF PREFERENCES IN GRADE IV

<table>
<thead>
<tr>
<th>Grade</th>
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<th>S.E.%</th>
<th>Diff. %</th>
<th>S.E. Diff.%</th>
<th>C.R.</th>
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</table>
The graph-table for grade four, like those of grade five and grade six shows a decided preference for multiple texts. Grade four nearly approaches grade five and tops the choice in grade six. The preference for group work was more pronounced in grade four, but was still of no significance. Here again, the children preferred to find materials for themselves, the critical ratio being greater than that of grade five, but not so high as in grade six. It would seem that grade or age level made little difference in these three groups of choices.

**GRAPH -- TABLE V**

<table>
<thead>
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<th>PREFERENCES IN GRADE SIX BASED ON SEX DIFFERENCES</th>
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<td>BOYS Grade Six</td>
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<tr>
<td>Group work</td>
</tr>
<tr>
<td>Partner work</td>
</tr>
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<th>S.E.</th>
<th>Dif.%</th>
<th>C.R.</th>
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of a sentence, but it is important to avoid using the examples given in the text. The sentence should contain a subject and a verb, and it should be grammatically correct. The sentence should also convey the intended meaning. It is important to ensure that the sentence is clear and concise. The sentence should be written in a way that is easy to understand. The sentence should also be free of errors. The sentence should be written in a way that is consistent with the style of the text. The sentence should be written in a way that is appropriate for the audience. The sentence should be written in a way that is appropriate for the purpose. The sentence should be written in a way that is appropriate for the context.
Based on sex differences, the graph-table for grade six shows that both boys and girls prefer multiple texts. The girls prefer multiple texts to a greater extent than do the boys, although both sexes show significant data.

The factor of sex did not appear to enter into the choice between partner or group participation, and the choices were not significant.

Sex did appear to influence the choice between self-directed and teacher-directed work for the choice on the part of the boys of self-directed work was high, with a critical ratio of 12.727. The choice of the girls of self-directed work was significant at 6.301. Boys preferred self-direction more than did the girls, although both choices were significant.
My name is William and I am currently a student at XYZ University. I have been working on a project that involves the development of a new algorithm for image recognition. My team and I believe that this algorithm could revolutionize the field of machine learning.

We have been working on this project for several months, and we have made significant progress. Our algorithm has shown a high degree of accuracy in recognizing various types of images, including medical images, facial recognition, and object detection.

In the future, we plan to further refine our algorithm and test its performance in real-world scenarios. We are confident that this project will not only contribute to the field of machine learning but also have practical applications in various industries.

Thank you for your interest in our project. We look forward to sharing more about our progress in the future.
In grade five, both boys and girls preferred multiple texts to single texts, and the critical ratio was about even, being just about one point higher for the girls. Neither boys nor girls showed any great preference for group participation or working with a partner, and in the case of the girls, the choices were about evenly divided. Self-directed work in the finding of materials was chosen by both sexes and more preferred by the girls.
In grade four, both boys and girls preferred multiple texts to single texts, and the critical ratio was nearly even in both instances. Both sexes preferred group work, and the boys showed greater significance than did the girls. Self-directed work was chosen rather than teacher-directed work, and the greater preference was on the part of the boys, though both choices showed high significance.
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### Comparison of Preferences in Grade VI

By Quartiles, Based on Intelligence

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<th>Dif.%</th>
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**Note:** The table contains data for various sample sizes and their corresponding percentages.
In grade six, the first quartile ranged from 140-117 intelligence quotient according to the Kuhlman-Anderson Intelligence tests given in that city. The second quartile was from 117-110; the third quartile ranged from 110-103, and the fourth and the lowest quartile was from 103-73.

The use of multiple choice ranked high in all quartiles, but rose to its highest point in the third quartile with a C.R. of 11.14 indicating that regardless of intelligence quotient, the preference was for the use of many books.

Group work in preference to partner participation showed no significant difference except in the second quartile. It did not seem to matter too greatly whether children worked with partners or in groups and intelligence did not influence any decision.

The choice of self-direction showed a high C.R. in the upper two quartiles, but dropped in the third and the fourth, although the choice here still remained significant. This would seem to indicate that children with higher intelligence preferred to be independent in the matter of finding materials while slower children tended to lean more on teacher direction.
## TABLE IX

COMPARISON OF PREFERENCES IN GRADE V BY QUARTILES, BASED ON INTELLIGENCE

<table>
<thead>
<tr>
<th>All Pupils</th>
<th>%</th>
<th>S.E.</th>
<th>S.E.%</th>
<th>Diff. %</th>
<th>S.E.Diff. %</th>
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<td></td>
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</table>
In grade five, the first quartile ranged from 134-110 intelligence quotient according to the Kuhlman-Anderson Intelligence tests. The second quartile ranged from 109-106; the third quartile, from 106-101, and the fourth quartile, from 101-74.

The choice of multiple texts was significant in all the quartiles, though it dropped slightly in the third and fourth quartiles, which would show that in the fifth grade, the choice was not influenced greatly by intelligence.

The choice of group work over that of partner work was not significant in any of the quartiles.

The choice of self-directed work was significant in all quartiles, and was highest in the second quartile, and dropped off in the fourth quartile which might show that children with lower intelligences tend to depend more on teacher direction. All choices were definitely in favor of self-direction, and were significant.
### Table X: Comparison of Preferences in Grade IV by Quartiles, Based on Intelligence

<table>
<thead>
<tr>
<th></th>
<th>%</th>
<th>S.E.</th>
<th>S.E.%</th>
<th>Dif.%</th>
<th>S.E.Dif.%</th>
<th>C.R.</th>
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<tr>
<td><strong>All Pupils</strong></td>
<td></td>
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<td></td>
<td></td>
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<tr>
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<td>.004900</td>
<td>.22</td>
<td>.098</td>
<td>2.244</td>
</tr>
<tr>
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<td>39</td>
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<td></td>
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<td>Self-directed</td>
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<tr>
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<td>.054</td>
<td>.002916</td>
<td>.66</td>
<td>.076</td>
<td>8.684</td>
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<td>17</td>
<td>.054</td>
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</tbody>
</table>
In grade four, the first quartile ranged from 170-111 I.Q. according to the Kuhlman-Anderson Intelligence Tests. The second quartile ranged from 111-106; the third quartile, from 106-101, and the fourth quartile, from 101-81.

All quartiles definitely preferred multiple texts. The highest choice was in the second quartile, with the first quartile closely following. The choice dropped in the two lower quartiles, although it remained significant.

The choice of group work over partner participation was not significant.

The preference for self-direction was significant in all quartiles, indicating in grade four that intelligence did not appear to influence this choice.
At all ages, multiple texts were preferred rather than single texts. The choices of greatest significance were from the nine year-olds through the twelve year-olds. The highest preference came in the eleven year-old group. This would seem to show that all children but the very young, preferred to use many books.
<table>
<thead>
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<th>Code</th>
<th>Value</th>
<th>Description</th>
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<tbody>
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<td>456</td>
<td>First Item</td>
</tr>
<tr>
<td>789</td>
<td>012</td>
<td>Second Item</td>
</tr>
<tr>
<td>321</td>
<td>654</td>
<td>Third Item</td>
</tr>
<tr>
<td>987</td>
<td>210</td>
<td>Fourth Item</td>
</tr>
</tbody>
</table>

Note: Sometimes very good condition; some 579 4

Often more interesting features in excellent cond.

And - many in good or excellent all - many broke and were broken also. Some of those were very well made and interesting. Some were broken, many were red and more-filled in. Some were red.
<table>
<thead>
<tr>
<th>Age</th>
<th>%</th>
<th>S.E.</th>
<th>S.E.%</th>
<th>Diff.%</th>
<th>S.E.Diff.%</th>
<th>C.R.</th>
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<td></td>
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<tr>
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<td>4.333</td>
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<tr>
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<td>0.00</td>
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<td>50</td>
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<tr>
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</tr>
<tr>
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<td>.001681</td>
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<tr>
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<td>44</td>
<td>.041</td>
<td></td>
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<td></td>
</tr>
<tr>
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<td></td>
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<tr>
<td>9 Group</td>
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<td>.001764</td>
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<td>2.37</td>
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<tr>
<td>9 Partner</td>
<td>43</td>
<td>.042</td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6 children</td>
<td></td>
<td></td>
<td></td>
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<td>.132</td>
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<td>8 Partner</td>
<td>33</td>
<td>.094</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

The only significant choice of group work was in the thirteen year-old group. This shows that it evidently does not make any difference to any age group whether they work with many or few people. It might be presumed that, as children grew older, they would be more gregarious and would desire the contact with the group, but this study does not show this to be true.
<table>
<thead>
<tr>
<th>Age</th>
<th>%</th>
<th>S.E</th>
<th>S.E.%</th>
<th>Dif.%</th>
<th>S.E.Dif.%</th>
<th>C.R.</th>
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<tr>
<td>9 children</td>
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<td>Self-directed 85</td>
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<tr>
<td></td>
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<tr>
<td>37 children</td>
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<td>Self-directed 80</td>
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<td>.004356</td>
<td>.60</td>
<td>.093</td>
</tr>
<tr>
<td></td>
<td>12</td>
<td>Tchr-directed 20</td>
<td>.066</td>
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<td></td>
<td></td>
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<td>11</td>
<td>Self-directed 80</td>
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<td>.001089</td>
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<tr>
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<td>11</td>
<td>Tchr-directed 20</td>
<td>.033</td>
<td></td>
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<td></td>
</tr>
<tr>
<td>206 children</td>
<td>10</td>
<td>Self-directed 77</td>
<td>.029</td>
<td>.000481</td>
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<tr>
<td>142 children</td>
<td>9</td>
<td>Self-directed 81</td>
<td>.033</td>
<td>.001089</td>
<td>.62</td>
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<tr>
<td></td>
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<td>Tchr-directed 19</td>
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<td></td>
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<tr>
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<td>8</td>
<td>Self-directed 77</td>
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<td>.007936</td>
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<td>8</td>
<td>Tchr-directed 23</td>
<td>.086</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

There was a decided preference for self-directed work at all ages. The highest point of this choice came from the nine year-olds through the eleven year-olds. The thirteen year-olds and the eight year-olds showed the least preference of the entire group, but their choice was significant.
<table>
<thead>
<tr>
<th>Column 1</th>
<th>Column 2</th>
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<tbody>
<tr>
<td>Entry 1</td>
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<td>Entry 13</td>
<td>Entry 14</td>
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<tr>
<td>Entry 15</td>
<td>Entry 16</td>
</tr>
</tbody>
</table>

As some help us the art necessary and best. Have and will more written over to many whole day. As they get the cut, we learned much and different all year. As something times our friends acknowledge right out this date. Then inspection for some soil, every spring of the
Activities

Choices in relation to activities were tabulated in much the same way that preferences were, with a master sheet from which small graphs were made. Activities were tabulated to show how these choices were affected by age, intelligence, grade placement, and sex differences. The activities considered were reading, drawing, writing, constructing, and talking.

Graph XI Comparison of Activities by Grades

The reading activity found its peak in the fifth grade and was slightly lower in the fourth grade and two points lower in the sixth grade. Since the fifth and the fourth grades were so close, this study would seem to indicate that the children of the lower grades liked to read better than the children of the upper grades. It is possible that in the sixth grade, a child develops a more social attitude and begins to find wider interests for himself rather than the solitary
interest of reading. A study of social interests compared with reading might prove whether at this point the child begins to become interested in people themselves rather than books and their characters.

The drawing activity ranked second choice in all three grades, indicating that drawing is a favorite subject.

Writing was more favored in grade six than in either of the other two grades where it gradually receded from 18.4 per cent to 15.2 per cent. This study would seem to indicate that the higher the grade, the more security the child had in writing, the more he had to tell and the more interested he was in getting events down on paper.

Construction was a definite favorite in all grades and decreased from 26.8 per cent in the fourth grade to 22.1 per cent in the sixth grade, which denoted that to younger children there was a greater desire for making things than the upper grade children showed.

Talking was the lowest activity of the grades. It was more favored in the sixth grade, but fell off gradually to the fourth grade. This might be evidence that the children of grade six had built up more experience in talking before a group and might possibly be an indication of their security, while the fourth grade children are more self-conscious and possibly not yet willing to make oral contributions in the form of talks for the class.
The next interpretation of test results in relation to activities came under the heading of sexes.

The choice of reading activity by boys and girls was nearly parallel, showing that sex made little difference in this particular category. Apparently, girls and boys were equally interested in reading in the sixth grade. Among the girls, it was the lowest choice of all activities. Among the boys, it ranked in the middle of all activities. This would signify that in a comparison of activities, girls like reading less than boys do.

Drawing was more favored by boys than girls in the sixth grade. With the boys, this was their favorite activity, while with girls, it was next to the lowest choice, reading being only a point above it. This would denote that drawing could be presented to boys as an acceptable medium of expression more successfully than to girls.
Writing was more acceptable to girls than to boys. With girls it was a second choice, while with boys, it matched talking for the lowest choice. This would seem to denote that girls could use writing as a means of expression more readily than boys would.

Talking was more favored by girls than by boys, being in third place for girls while it ranked with writing as the least desirable choice for boys.

In this classification, girls excelled in construction and writing while boys favored constructing and drawing.

Boys and Girls in Grade Five was the next interpretation of data.

Graph XIII Comparison of Activities - Boys and Girls in Grade V
Reading appealed to boys much more than it did to girls. With boys, it was the second choice of activities while with girls, it ranked third. The girls remained about the same as the girls in the sixth grade, while the boys advanced five points over the boys of the sixth grade. This would seem to signify that reading was better liked in the fifth grade than in the sixth grade, by the boys, but to the girls, grade made no difference.

Drawing was more popular with girls than with boys. For the girls, it was second choice, as it was with the boys, but the choice did not rank so high for the boys. Girls liked drawing better in the fifth grade than they did in the sixth grade, while fifth grade boys liked drawing less than they did in the sixth grade.

Writing for boys was the lowest choice of the activities as it was in grade six. For the girls, writing was next lowest in grade five and in grade six. This would lead to the deduction that in carrying out assignments, writing would be the least favored way of expression.

Constructing was the top choice by both boys and girls, and, except for .6 per cent, they were equal in their percentage of choices. The percentage of their choice in this activity was greater than in the same activity in grade six.

Talking was the lowest choice of activities for both boys and girls, and it was .3 per cent less favored by the girls.
In grade five, constructing and reading lead for the boys and constructing leads for the girls. Talking and writing for the boys and talking and writing or reading for the girls would be the least desirable activities.

Boys and girls of grade four was the next interpretation of data.

<table>
<thead>
<tr>
<th>Grade 4 Boys Activities</th>
<th>Grade 4 Girls Activities</th>
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</thead>
<tbody>
<tr>
<td>Reading</td>
<td>Drawing</td>
</tr>
<tr>
<td>22.1%</td>
<td>23.8%</td>
</tr>
</tbody>
</table>

Graph IV Comparison of Activities - Boys and Girls in Grade IV

Reading was preferred by the boys at 22.1 per cent while the girls chose it at 19.6 per cent. It held third place from the top for both sexes. The girls preferred reading in grade four more than in any previous grade, while the boys were a bit lower than those of grade five, but topped the boys of grade six. This would seem to indicate that reading can be used more successfully in grade four than in either of the other two grades as far as children's interests are concerned.
Drawing occupied second place for boys as well as for girls. The boy's preference was higher than the girl's. The boys topped grade five, but drawing was not so much preferred by grade four as by grade six. As for girls, the same was true. Drawing would appear to be a successful medium of expression in grade four.

Writing was the lowest choice for boys in grade four. It ranked next lowest for girls. Grade four boys preferred writing less than boys of either of the previous grades. This would seem to indicate that writing would be the least desirable form of expression in grade four. Writing preference definitely declined in grade four.

Constructing was the first choice for boys as well as for girls in grade four, and reached an all high for all three grades at that level. This would seem to suggest that lessons that had to do with constructing would be most successful in grade four, for both boys and girls.

Talking was the lowest choice for girls and the next lowest for boys. This seems to follow the general pattern for the other two grades, although it was less desirable in grade four than in grade six. It might evince a lack of security or experience in this type of expression.

In grade four, according to this study, drawing and constructing would be a successful medium for both boys and girls and writing and talking would be the least desirable.
The next data were arranged in quartiles for the different grades to determine whether intelligence had any influence on the choices of activities.

The graphs below show the four quartiles for the sixth grade and indicate what effect intelligence had on them.

Graph: Comparison of Activities by Quartiles - Grade VI

- Second Quartile Grade 6 Activities
- First Quartile Grade 6 Activities
- Third Quartile Grade 6 Activities
- Fourth Quartile Grade 6 Activities
Reading was preferred most by the inter quartile range, for it declined on both ends, which would seem to indicate that the more intelligent children favored another outlet, while possibly the lower intelligence found it difficult. Reading reached its peak in the third quartile, and was the lowest choice of the first quartile.

Drawing was highest in the first quartile and next highest in the fourth quartile while it declined in the interquartile range. With the exception of the fourth quartile, drawing was the first choice of activities. In the fourth quartile, construction ranked highest.

Writing occupied third place in the first quartile, top choice in the second quartile, lowest choice in the third quartile, and paralleled reading for lowest place in the fourth quartile. This would seem to denote that writing was more acceptable to children with higher intelligence than to those with a lower intelligence.

Constructing occupied first place in the second and the fourth Quartile while it dropped to second place in the first quartile and came in the middle of the third quartile. It would seem to indicate that working with the hands was more desired by children with lower rather than higher intelligence.

Talking seemed to stay at nearly the same point in the first three quartiles and rose in favor in the fourth quartile. This is contrary to what might be expected.
This study would indicate that with higher intelligence, drawing and constructing were in favor, while with lower intelligence constructing and drawing still held first place. In considering writing, reading and talking, in the higher intelligence, writing came first while in the lower intelligence, reading and talking prevailed. The writer has considered that to most children drawing and constructing have always had a tremendous appeal and in view of this, a study which would eliminate these two activities and consider just writing, reading and talking might have great value in determining what place these studies, or assignments in these studies, held in the preference of children.
Quartiles in Grade Five Were Next Considered

Graph XVI Comparison of Activities by Quartiles - Grade V

First Quartile Grade 5

<table>
<thead>
<tr>
<th>Activity</th>
<th>Percentage</th>
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</thead>
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<td>Reading</td>
<td>18.8%</td>
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<tr>
<td>Drawing</td>
<td>25%</td>
</tr>
<tr>
<td>Writing</td>
<td>15.5%</td>
</tr>
<tr>
<td>Constructing</td>
<td>26%</td>
</tr>
<tr>
<td>Talking</td>
<td>13.3%</td>
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Second Quartile Grade 5

<table>
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<tr>
<th>Activity</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reading</td>
<td>22.7%</td>
</tr>
<tr>
<td>Drawing</td>
<td>21.2%</td>
</tr>
<tr>
<td>Writing</td>
<td>15%</td>
</tr>
<tr>
<td>Constructing</td>
<td>29.8%</td>
</tr>
<tr>
<td>Talking</td>
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</table>

Third Quartile Grade 5

<table>
<thead>
<tr>
<th>Activity</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reading</td>
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</tr>
<tr>
<td>Drawing</td>
<td>20.8%</td>
</tr>
<tr>
<td>Writing</td>
<td>17%</td>
</tr>
<tr>
<td>Constructing</td>
<td>20.2%</td>
</tr>
<tr>
<td>Talking</td>
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</table>

Fourth Quartile Grade 5

<table>
<thead>
<tr>
<th>Activity</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reading</td>
<td>17%</td>
</tr>
<tr>
<td>Drawing</td>
<td>22.2%</td>
</tr>
<tr>
<td>Writing</td>
<td>20.9%</td>
</tr>
<tr>
<td>Constructing</td>
<td>28.1%</td>
</tr>
<tr>
<td>Talking</td>
<td>14.7%</td>
</tr>
</tbody>
</table>
Reading was higher in choice in the interquartile range of grade five than at either end which compares favorably with grade six. However, reading rated higher in all quartiles than it did in grade six, seeming to show that all children in grade five liked reading better than those in grade six. In the third quartile, it was the highest choice of all the activities.

Drawing steadily declined from the first quartile to the third where in the fourth quartile it rose again. In all quartiles but one, it was the second choice of activities. It ranked about the same in numerical place in grade five as it did in grade six.

Writing steadily increased from the first quartile at 15.5 per cent to the fourth quartile at 20.5 per cent. This would seem to indicate that the most intelligent children liked to write least and the less intelligent children liked to write more. In all but the last quartile, it was the next to the lowest choice and in the last quartile, it was third from the bottom. In grade six the preference from the first to the fourth quartile decreased; in grade five, it increased from the fourth to the first quartile.

Constructing was the first choice in all quartiles but the third. This would seem to indicate that children of varying intellectual ability like working with their hands.
The highest percentage of choices in constructing was in the fourth quartile which would seem to bear out the statement that dull children like to work better with their hands.

Talking was preferred least of all activities except in the third quartile where it was one point above writing. However, the rate of percentage increased from the first quartile to the fourth quartile where it dropped seven points, indicating that slow children do not like talking assignments.

This study would seem to indicate that children with higher intelligence chose construction and reading, while children with lower intelligence preferred construction and drawing. In the higher intelligence groups, this differs from grade six but remains the same in the lower intelligence groups. Talking and writing in the first three quartiles, and talking and reading in the last quartile are least favored. If drawing and constructing were left out, reading would hold first place in the first three quartiles, and writing would come first in the last quartile with reading in second place.
The Quartiles of Grade Four Were Next Considered
Graph XVII. Comparison of Activities by Quartiles - Grade IV

First Quartile Grade 4

<table>
<thead>
<tr>
<th>Activities</th>
<th>170-180</th>
<th>160-170</th>
<th>150-160</th>
<th>140-150</th>
<th>130-140</th>
<th>120-130</th>
<th>110-120</th>
<th>100-110</th>
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</thead>
<tbody>
<tr>
<td>Reading</td>
<td>20%</td>
<td>18%</td>
<td>16%</td>
<td>14%</td>
<td>12%</td>
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<td>4%</td>
</tr>
<tr>
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<td>20%</td>
<td>18%</td>
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<tr>
<td>Writing</td>
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Second Quartile Grade 4

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Third Quartile Grade 4

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Fourth Quartile Grade 4

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<th>140-150</th>
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<tr>
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<tr>
<td>Drawing</td>
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<tr>
<td>Writing</td>
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<tr>
<td>Constructing</td>
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<td>23%</td>
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<td>23%</td>
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</tr>
<tr>
<td>Talking</td>
<td>16%</td>
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</tr>
</tbody>
</table>

Graphs showing the distribution of activities among the first four quartiles of Grade Four.
Reading remained at the same level in three of the quartiles. In the third quartile it rose from 20.4 per cent to 25.6 per cent. It also was second choice among the activities in all three quartiles but the third. Reading was in most cases higher in percentage placement in this grade than in either of the two preceding ones.

Drawing occupied about the same percentage place throughout all four quartiles and was more favored than reading. It was second choice of all the activities in all but the fourth quartile where it tied with constructing. Drawing also was more preferred in the fourth grade than in the fifth or sixth.

Writing was the next lowest chosen activity in all quartiles except the fourth where it was the lowest. The fourth grade compared with the fifth grade in the dislike of writing and these two grades showed less preference for writing than the sixth grade showed. This would seem to indicate that lower grade children do not find writing an enjoyable activity.

Constructing was first choice in all quartiles, the choice being very high in the first three, but falling off in the fourth quartile, while still remaining the first choice of that quartile. Constructing is a desirable activity for grade four.

Talking was the lowest choice of activities in all quartiles but the last, where writing was lower. Both fourth
and fifth grades found talking much less desirable than did the children of grade six although talking was not greatly preferred in this grade.

If drawing and constructing were eliminated from the choices, it would be found that reading was definitely a first choice in grade four and that talking was least desired.

A study of this grade would seem to denote that constructing and drawing were favored by children of all intelligence levels, and that writing and talking were least desired. Constructing was even more favored in this grade than it was in grade six and in grade five which would seem to indicate that lower grade children are still in the age to work well with their hands and to enjoy concrete materials better than abstract ideas.
The next grouping of activities was considered in relation to age. A table of ages follows:

<table>
<thead>
<tr>
<th>Age</th>
<th>Number of Children</th>
</tr>
</thead>
<tbody>
<tr>
<td>13</td>
<td>9</td>
</tr>
<tr>
<td>12</td>
<td>37</td>
</tr>
<tr>
<td>11</td>
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<td>10</td>
<td>206</td>
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<tr>
<td>9</td>
<td>142</td>
</tr>
<tr>
<td>8</td>
<td>6</td>
</tr>
</tbody>
</table>

Comparison of Reading by Ages

Reading seemed to describe something of an arc from the thirteen year level to the eighth year level. On both ends, reading was less desirable, and among the ten and eleven year old children, it reached a plateau, to rise 1.4 per cent on the nine year level and to drop on the eight year level, but not so far down as it did on the thirteen year level. This study would seem to indicate that reading was more popular from the ninth to the twelfth year.
Next to be considered was drawing.

![Graph comparison of drawing by ages]

Drawing deviated only five points from the lowest choice to the highest and since it was neither a gradual rise nor descent, it would not seem that age affected it greatly. It was more preferred by the eight year olds than by any of the other ages. The choice as compared with other activities, ranked high on a percentage basis, designating that drawing is a desirable subject to all ages.
Writing remains in a distinct area in all ages until the eight year old where it drops to a very small percentage as a choice. Writing is more preferred by the eleven and the twelve year olds and seems not to be desirable to the eight year old in any degree. This would seem to indicate that children of ten and eleven enjoyed writing as an activity more than did children of other ages.

Graph XX Comparison of Writing by Ages

<table>
<thead>
<tr>
<th>Age</th>
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</thead>
<tbody>
<tr>
<td>9</td>
<td>15.3%</td>
</tr>
<tr>
<td>10</td>
<td>13.5%</td>
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<tr>
<td>11</td>
<td>18.7%</td>
</tr>
<tr>
<td>12</td>
<td>14.3%</td>
</tr>
<tr>
<td>13</td>
<td>15.4%</td>
</tr>
<tr>
<td>14</td>
<td>8.3%</td>
</tr>
</tbody>
</table>
Constructing pursued a zigzag course through the age levels, and was a definitely high choice among the eight year olds. At all times, it ranked high as far as percentage of choice was concerned, being especially favored by the ten and the twelve year olds, and unusually so by the eight year olds. This would seem to indicate that the younger children are, the more they enjoy manipulatory work and tend toward creative outlets.

*Graph XXI Comparison of Construction by Ages*

![Bar graph comparing construction by ages](image-url)
In most cases, talking was the least favored of the activities. The peak was reached at the eleven year level.
On the following page are graphs to show all choices of activities in relation to one age level. Previous graphs have shown one activity in relation to all ages. This next page gives a picture of definite preferences and of those choices least desired.

According to age, the preferences and those least desired are as follows:

<table>
<thead>
<tr>
<th>Age</th>
<th>Preference</th>
<th>Least Desired</th>
</tr>
</thead>
<tbody>
<tr>
<td>13</td>
<td>Drawing</td>
<td>Reading</td>
</tr>
<tr>
<td>12</td>
<td>Constructing</td>
<td>Writing</td>
</tr>
<tr>
<td>11</td>
<td>Drawing</td>
<td>Talking</td>
</tr>
<tr>
<td>10</td>
<td>Constructing</td>
<td>Talking</td>
</tr>
<tr>
<td>9</td>
<td>Constructing</td>
<td>Talking</td>
</tr>
<tr>
<td>8</td>
<td>Constructing</td>
<td>Writing</td>
</tr>
</tbody>
</table>

This would seem to indicate that at all ages, drawing and constructing were a definite preference while reading and writing were least desired by older children and talking and writing by the younger children. Age would seem to have no bearing on preferences since art work of one form or another was preferred at all ages. Age did have some bearing on choices, in that writing was least acceptable to younger children and reading and writing were least acceptable to the older ones.
GENERAL CONCLUSIONS

1. Multiple text was favored more than single text in most instances.

2. Group participation was selected by older children and upper age and intelligence levels. Partner participation was selected by the slow learning and younger children.

3. Self-direction was more favored than teacher-direction. Age and intelligence influenced this choice.

4. Reading preference was most popular in grade four and least popular in grade six. It was not, however, the most popular choice in any grade.

5. Writing was affected by grade levels, being most popular in grade six. More girls than boys preferred writing. In grade four, it was liked least of all the activities. In many of the tabulations of preferences, it was the lowest choice.

6. Drawing was a popular choice and preferred by all children, it being either top or second choice. The top and the lowest quartile preferred it to any other activity.

7. Constructing was generally the top choice of all activities.

8. Talking was the lowest in choice of activities by grades. More grade six girls than boys preferred talking. It was the lowest activity in grade five as well as in grade four and there it was the lowest preference for girls.
CHAPTER V

EDUCATIONAL IMPLICATIONS
CHAPTER V

EDUCATIONAL IMPLICATIONS

This study was conducted with the idea of discovering how age, grade placement, intelligence, and sex influenced choices in the use of textbooks, group or partner participation, self-directed or teacher-directed work, and the activities of reading, writing, talking, drawing, and constructing. The following implications in relation to education appear to result from the investigations in this study.

1. The children studied appeared to be most independent in the use of many texts as indicated by the results of the test. Only in lower age and some grade levels did the choice for single texts rise at all and then only in a small degree. In preparation of lessons for this group of children, the teacher could use a great many different texts with satisfactory results.

2. Graphs indicated that slow-learning children and younger children preferred to work in smaller relationships and that as age and intelligence rose, they were more willing to work with greater numbers, possibly indicating a more social attitude. Judging by this, older children and more intelligent children could assume greater responsibilities and should work with a number of individuals rather than
individually or in small relationships.

3. Under each classification, self direction was more favored than teacher direction which shows an independent attitude by the particular groups tested. Age and intelligence influenced this choice and indicated that the slower learning the child, and the younger the child, the more he depended on adult direction. Considering this to be so, it would seem that the teacher should in some way arrange work to encourage the slow learner and the young child to take a more active and individual part in the class, and thereby build up confidence so that he does not depend too largely on an adult. Since one aim of education is to teach children to live democratically, each one making his contribution to the whole, each one assuming as best he can the part of leader in different situations, it is a definite challenge to the teacher to provide opportunities for leadership and to help the child to grow in confidence.

4. Reading was never a very popular choice as long as drawing and constructing were included. If those were omitted, reading rose in favor. It was affected by age, in that the younger children enjoyed reading more than did the older ones. This might be due, perhaps, to the fact that the older children are becoming more socially minded and people interest them more than do books. A study of this would prove interesting and beneficial. Reading needs to be more
...
than just an end in itself. Reading should have as one of its aims, the enrichment of life. It should be interesting and thought-provoking, and should lead to further enjoyment through appreciations gained, activities stimulated, tendencies to action aroused. Reading has often been the end of a process rather than the beginning or open door to a wider horizon. If we can lead children to see that books make life more meaningful; that from them, they can learn about the things which they meet in everyday life; and that through books comes the power to enrich their experiences, we have made reading what it should be;—a tool, not a master.

5. Writing was not chosen as a favorite activity in many instances. Children of grade six favored it more than did those of any other level. Teachers may well plan writing assignments that are more interesting and less complex in order to encourage more interest in the subject.

6. Drawing was preferred by all children as first or second choice, indicating that any assignment that dealt with drawing would be successful. This might be used as a motivating power in connection with other studies.

7. Constructing was popular with all children, especially with the younger ones. This creative instinct can serve as a motivating power in other studies. The younger children may benefit more from this than would the older ones whose creative powers possibly lie in other fields.
[No text content available]
8. From the place that talking held among activity choices, one would judge that this activity needed motivating in order to be made more appealing to the children, since it is a necessary activity in one's life. Perhaps talking has been too formal in its presentation, and not simply enough planned so that the consciousness of criticism and of speaking to an audience have been too much present. Lessons planned more informally might in some measure lessen this feeling and add to the pleasure of talking.

**Suggested Further Study**

1. Compare social interests with reading to determine if children of grade six age are more interested in people than in books and their characters.

2. Compare reading, writing, and talking to see where the preference in this combination lies (omitting drawing and constructing).

3. Conduct a study to determine why writing and talking are so distasteful and what can be done to improve these particular assignments.

4. Test grade five in another community to see if the same or different results are obtained as in this test-to determine if it is truly a reactionary grade or if the population of this test in that area was just unusual.
5. Develop material similar to this test to be used as a pre-test of unit study to determine how children prefer to work. This would enable the teacher to understand her group and to plan their assignments wisely.

6. Conduct a study to determine why self direction grew more pronounced in the fourth grade than in the sixth grade as would have been expected.

7. Conduct this survey in comparison with reading grades to see in what way preferences are influenced by it.

8. Study creative ability in children and see how the preference for writing compares with it.

9. Conduct an experimental and controlled group to determine what effect teacher selection and pupil selection would have on results of an investigation of the nature described in this thesis.

10. Conduct an investigation of eight year olds to find out if they prefer group participation rather than partner participation which was indicated by this study, and which seems so contrary to the psychology of behavior.
EXHIBIT A

Sampling Children's Preferences in Types of Assignments

Choose the way you would like best to do each of these pairs of studies and put a 1 in the space before it. Put a figure 2 before your second choice.

1. If you were trying to find out how cotton is produced, would you like best to:

   ( ) Have all the children read from *A Day in the Cotton Fields*?

   ( ) Have all the children read from several different books such as: *How Cotton Is Raised*;
   *Story of Eli Whitney's Cotton Gin*;
   *From Cotton to Cooking*?

2. If you were going to make a map of China, would you like to:

   ( ) Use these books to find out about China
   *Ying Lee in China*
   *Our Chinese Cousin*
   *Adventures Aboard a Chinese Junk*

   ( ) Have the whole class read from:
   *Story of China*

3. You want to learn about airplanes. Would you like best to:

   ( ) Read about airplanes in
   *Globes, Maps and Skyways*

   ( ) Learn about airplanes from
   *Elementary School Science for the Air Age*
   *Human Geography in the Air Age*
   *The Air We Live In*

4. You are preparing a program for Lincoln's birthday. Would you rather:

   ( ) Get your information from
   *Life of Abraham Lincoln*

   ( ) Learn about Lincoln from
   *Abe the Railsplitter*
   *Abraham Lincoln As I Knew Him*
   *How Abe Saved the Pig*
5. You are studying about Switzerland. Would you rather:—

   ( ) Find out about the country from
   Travels in Switzerland
   Heidi

   ( ) Find out about Switzerland from
   Child's Geography of Switzerland

1. The class is preparing to give talks on airplanes. Would you rather:—

   ( ) Have small groups look up material in
   Early Airplanes
   Story of the Wright Brothers
   The First Balloon

   ( ) Choose a partner and look for material in
   The Air We Live In
   Geography of the Air Age
   Flying with Lindbergh

2. The class is going to prepare an assembly program on rubber. Which way would you choose to work?

   ( ) Find some material to work with a partner in
   The World at Work
   Living in the Americas

   ( ) Work with a small group to find out about rubber in
   Our South American Neighbors
   How Rubber Is Taken from the Jungle

3. The class is preparing to give some talks on aviation. Which way would you choose to work?

   ( ) Work with a few people and read from
   Flying the Airways
   Pan American Air Routes

   ( ) Work with your partner and read from
   New York to Brazil by Plane
   Mail by Plane
4. A man is coming to talk about sheep ranching. Which way would you choose to find out some information before he comes?

( ) Choose a friend and look in
   My Life on a Sheep Ranch
   Bingo, the Ranch Dog

( ) Join a small group and read from
   The Shepherd's Best Friend
   Days on a Sheep Ranch

5. You are studying about monkeys. How would you choose to work?

( ) Divide the class into groups and look up information in
   In the South American Jungle
   Red Howling Monkey

( ) Everybody choose a partner and read from
   Animal Treasure
   The Monkey's Village

1. Your room is going to prepare a program for Washington's birthday. How would you choose to work?

( ) Look in some books which you found in the room.
   Our First President
   How People Lived at the Time of Washington
   Story of Washington and the Cherry Tree

( ) Have the teacher find the books and give them to you:
   My Brother, George Washington
   Famous Americans
   Washington's Journey to New York

2. An assembly program is to be given about coffee. How would you choose to work?

( ) Let the teacher find the material in these books:
   My Coffee Ranch
   Paulo, the Ranch Boy
   How Coffee Is Grown
( ) Hunt around the room until you found some books about coffee such as:
   - They Lived in South America
   - Life on a Coffee Plantation
   - How Pedro Earned His Donkey

3. You are going to invite another grade in to hear you tell what you have learned about Indians. How would you like to work?

( ) Be responsible for finding the material on Indians such as:
   - The Red Indian Blanket
   - Moki, the Indian Boy
   - How the Indians Made Canoes

( ) Use some books the teacher looked up for you:
   - Indian Folk Tales
   - Manitou, the Indian Spirit
   - My Life Among the Indians

4. Your parents are invited to hear the class tell about fishing. How would you choose to find things to tell?

( ) Have some one find books for you to read from such as:
   - Fishing in the Atlantic
   - Aboard a Fishing Schooner
   - A Trip to the Grand Banks

( ) Look for books yourself until you found something like:
   - My Fishing Diary
   - How Deep Sea Fishing Is Done
   - Aboard the Salty Fin

5. If you were going to talk about coal mining, how would you choose to get the information?

( ) Find material yourself about coal mining as:
   - The Miner's Mule
   - Canary in the Mine
   - How Coal Was Formed

( ) Have the teacher tell you what books to read:
   - My Work in a Coal Mine
   - The Fire in the Mine
   - From Trees to Coal
1. If you were studying about dogs, would you prefer to:

( ) Read about My Eskimo Dog Team
( ) Draw a poster about Be Kind to Dogs
( ) Write a story about Bingo: My Pet Dog

2. Your room is to entertain another room with a program about fishing. Which would you rather do to help make it most interesting?

( ) Paint a picture of sailing boats
( ) Write a report on an imaginary trip on a fishing boat
( ) Make a soap or clay model of a fishing boat

3. An assembly program is to be given about stamp collecting. What part would you like best to take in it?

( ) Write a story about first stamps
( ) Make a poster about stamps
( ) Give a talk on stamp collecting

4. Your room wants to find out about Switzerland. Which way would you like best to show what you had found?

( ) Make a model of a Swiss house
( ) Tell the story of William Tell
( ) Read how Hannibal crossed the Alps

5. A program about airplanes is to be prepared. Would you prefer to:

( ) Report about the first airplane
( ) Read about The Air We Live In
( ) Make a poster about different kinds of planes

6. Your class is planning to study about Indians. Which way would you choose to help?

( ) Draw a picture of an Indian brave
( ) Read about the Hopi Indians
( ) Tell how Indians made their fires
7. China is to be studied by the class. Which would you choose to do?
   ( ) Read about Chinese junks
   ( ) Tell the class how the Chinese fish
   ( ) Make a model of a Chinese junk out of clay or wood

8. You are to entertain some visitors who have come to see what you have learned about coffee growing. Which would you choose to do?
   ( ) Tell about a make believe trip to South America
   ( ) Make a model of a small donkey out of wood or soap
   ( ) Write a letter about your trip to a coffee plantation

9. The class is studying about farm animals. Would you rather
   ( ) Make a model of a small barn
   ( ) Write a story of your visit to the farm
   ( ) Make a picture of something you would see on a farm

10. An assembly program is to be prepared about trains. Which of these would you rather do?
    ( ) Write a story about the race between the horse and the engine
    ( ) Draw a picture of different kinds of trains
    ( ) Read the story about Peter Cooper's Tom Thumb engine
EXHIBIT B

Sampling Children's Preferences in Reading and Working

Choose the way you would like best to do each of these pairs of studies and put a 1 in the space before it. Put a figure 2 before your second choice.

1. Your class is to study about cotton. Would you like best to:

   ( ) Have all the children read out of the same books about planting cotton

   ( ) Have all the children read in different books about cotton prints, use of cotton seeds, the boll weevil.

2. The class is going to make a study of China. Would you like to:

   ( ) Have all the children use different books to find out about Chinese floods, rice in China, Chinese junks, fishing in China and other things.

   ( ) Have everybody find out about Chinese farms in books that are alike.

3. The children are preparing to have a program. Would you like best to:

   ( ) Have everyone use the same set of books to find out about sea planes.

   ( ) Have all the children use different books to find out about rocket planes, transport planes, aeroplane carriers, passenger planes.

4. You are preparing a program for Lincoln's birthday. Which would you like best to do?

   ( ) Have all the children use books alike to find out about Lincoln's boyhood

   ( ) Have the children use books that are not alike to find out about Lincoln and the pig, Lincoln and the storekeeper, Lincoln and the trunk, and other stories.
5. You are studying about Switzerland. Which way would you like to work?

( ) Have all the children use many different books to find out about Swiss watches- mountain climbing- Saint Bernard dogs- William Tell- Alpine mountains.

( ) Have all the children look in one set of books to find out about wood carving in Switzerland.

1. The class is preparing to give talks on airplanes. Would you like best to :-

( ) Have small groups look up material about early airplanes- the Wright brothers- the first balloon

( ) Choose a partner and look for material about the air age- Lindberg- how airplanes helped in the war.

2. The class is going to prepare an assembly program on rubber. Which way would you choose to work?

( ) Work with a partner to find out about rubber in Brazil- rubber plantations- latex- things made of rubber.

( ) Work in a small group to find out about rubber in the Far East- synthetic rubber- uses of rubber.

3. The class is preparing to give some talks on aviation. Which would you choose to do?

( ) Work with a few people and read about airplane pilots- airplane carriers- trips over the Atlantic.

( ) Work with your partner and read about mail planes- rocket ships- balloons.

4. A man is coming to talk about sheep ranching. Which way would you choose to find out information before he comes?

( ) Choose a friend and look up about wool in Australia- how woolen cloth is made- how dogs help the shepherd

( ) Divide the class into small groups and read about dipping the sheep- sheep dogs- life on a sheep ranch.
5. You are studying about monkeys. How would you choose to work?

( ) Make the class into small groups and find information about monkeys in Africa- how monkeys live - in what ways do monkeys act like men

( ) Everybody in the room choose a partner and read about monkeys in South America- what monkeys eat - how monkeys live.

1. Your room is going to prepare a program for Washington's Birthday. How would you choose to work?

( ) Find books for yourself, in the room, at the library, or at home about our first president- how people lived in the time of Washington- how Washington cut down the cherry tree.

( ) Have the teacher find books and give them to you about George Washington-famous Americans- Washington's journey to New York.

2. An assembly program is to be given about coffee. How would you choose to work?

( ) Let the teacher find materials for you about a coffee ranch- how coffee is shipped- famous coffee ports.

( ) Look in several places until you found some books about coffee roasting-coffee plantations- how men work on a coffee ranch- new ways of using coffee.

3. You are going to invite another grade in to hear you tell about what you have learned about Indians. Which way would you choose to work?

( ) Be responsible for finding materials about Indian houses-Indian weaving- Indian hunting and fishing-Indian customs.

( ) Use some books the teacher looked up for you about Indian hunters-life with the Indians-Indian food-Indian games.
4. Your parents are invited to hear the class tell about fishing. How would you choose to find things to tell?

( ) Have your teacher find some books for you to read about how cod fishing is done—a trip in a fishing schooner—fishing on the Grand Banks.

( ) Look for books yourself to find material about fishing in the Atlantic—cod fishing—fishing in Norway—fresh water fishing.

5. If you were going to talk about coal mining, how would you choose to get the information?

( ) Find material yourself in different places about how mining is done—use of canaries in the mines—how coal was formed.

( ) Have the teacher tell you what books to use to find out about dangers of mining—kinds of mines—how trees became coal.

1. If you were studying about dogs, would you prefer to:

( ) Read about My Eskimo Dog Team

( ) Draw a poster about Be Kind to Dogs

( ) Write a story about Bingo, My Pet Dog

2. Your room is to entertain another room with a program about fishing. Which would you prefer to do in order to make it more interesting?

( ) Paint a picture of sailing boats

( ) Write a report on an imaginary trip on a fishing boat

( ) Make a soap or clay model of a fishing boat.
3. An assembly is to be given about stamp collecting. What part would you prefer to take in it?
   ( ) Write a story about the first stamps
   ( ) Make a model of a mail plane
   ( ) Give a talk on stamp collecting

4. Your room wants to find out about Switzerland. Which way would you like best to show what you have found?
   ( ) Make a model of a Swiss house
   ( ) Tell the story of William Tell, or a hero of Switzerland
   ( ) Read how Hannibal crossed the Alps.

5. A program about airplanes is to be prepared. Would you prefer to:
   ( ) Report about the first airplane
   ( ) Read about pursuit planes
   ( ) Draw a picture showing different kinds of planes

6. Your class is planning to study about Indians. Which way would you choose to help?
   ( ) Draw a picture of an Indian Brave
   ( ) Read about the Hopi Indians
   ( ) Tell how Indians made their fires.

7. China is to be studied by the class. Which would you choose to do?
   ( ) Read about Chinese Junks and other boats
   ( ) Tell the class about Chinese fishing
   ( ) Make a model of a Chinese junk out of clay or wood.
8. You are to entertain some visitors who have come to see what you have learned about coffee growing. Which would you choose to do?

   ( ) Tell about a make-believe trip to South America
   ( ) Make a model of a small donkey out of wood or soap
   ( ) Write a letter about your trip to a coffee plantation.

9. The class is studying about farm animals. Which would you prefer to do?

   ( ) Make a model of a small barn
   ( ) Write a story of your visit to the farm
   ( ) Make a picture of something you would see on a farm.

10. An assembly program is to be prepared about trains. Which of these would you prefer to do?

    ( ) Write the story about the race between the horse and the engine
    ( ) Draw a picture of different kinds of trains
    ( ) Read the story about Peter Cooper's Tom Thumb engine.
We would like to find out how you like to work. We don't all like to do things in the same way. One way is interesting to some people while others like a different way. We would like to find out how you like to do things. Check the one you like best in each of the sets.

Sample:— The class is studying about horses. Would you prefer to:-

( ) Have everyone in the class read out of the same books to find out about Indian ponies, circus horses, wild horses.

( ) Have everyone read out of different books of many kinds to find out about Indian ponies, circus horses, wild horses.

1. Your class is to study about cotton. Would you like best to:-

( ) Have all the children read together out of the same set of books to find out about raising cotton, the cotton gin, cotton prints.

( ) Have each child read by himself in several different books to find out about raising cotton, the cotton gin, cotton prints.

2. The class is going to make a study of China. Would you like to:-

( ) Have each child use different books to find out about Chinese fishing, Chinese floods, life in China

( ) Have everybody find out about Chinese fishing, Chinese floods, life in China by reading the same story together.

3. The children are preparing a program. Would you like best to:-

( ) Have all the children read together out of the same set of books to find out about rocket planes, transport planes, passenger planes.

( ) Have all the children read from different books to find out about rocket planes, transport planes, passenger planes.

4. You are preparing a program for Lincoln's birthday. Which would you like best to do?

( ) Have all the children use the same set of books to find out about Lincoln and the pig, Lincoln the storekeeper, Lincoln and the trunk

( ) Have all the children read from many different books to find out about Lincoln and the pig, Lincoln the storekeeper, Lincoln and the trunk.

5. Your class is studying about Switzerland. Which way would you like to work?

( ) Have all the children use many different books to find out about Swiss watches, mountain climbing, Saint Bernard dogs, William Tell

( ) Have all the children read together from one set of books about Swiss watches, mountain climbing, Saint Bernard dogs, William Tell
1. The class is preparing to give talks on airplanes. Would you like best to:

( ) Have small groups look up material about spotting airplanes, airplanes in the war, rocket planes

( ) Choose a partner and look up material about spotting airplanes, airplanes in the war, rocket planes

2. The class is going to prepare an assembly program about rubber. Which way would you choose to help find things about rubber?

( ) Work with a partner to find out where rubber comes from, what rubber is used for, toys that are made of rubber.

( ) Work with a small group to find out where rubber comes from, what rubber is used for, toys that are made of rubber.

3. The class is preparing to give some talks on aviation. Which would you choose to do?

( ) Work with a few people and read about airplane pilots, airplane carriers, mail planes.

( ) Work with your chum and read about airplane pilots, airplane carriers, mail planes.

4. A man is coming to talk about sheep ranching. Which way would you choose to get information before he comes?

( ) Choose a friend and look up about how dogs help the shepherd, life on a sheep ranch, how woolen cloth is made

( ) Divide the class into small groups and read about how dogs help the shepherd, life on a sheep ranch, how woolen cloth is made.

5. Your class is studying about forests and lumbering. How would you choose to work?

( ) Make the class into small groups and find out about the dangers of the forest, life of the lumber jack, how lumbering is done.

( ) Everybody in the room choose a partner and read about the dangers of the forest, life of the lumber jack, how lumbering is done.
1. Your room is going to prepare a program for Washington's birthday. How would you choose to work?

( ) Find books for yourself, in the room, at the library, or at home about our first president, how people lived in Washington's time, Washington's journey to New York.

( ) Have the teacher find books and give them to you to read about our first president, how people lived in Washington's time, Washington's journey to New York.

2. An assembly program is to be given about coffee. How would you choose to work?

( ) Let the teacher find books for you that will tell about how coffee is raised, where our coffee comes from, people who work on coffee ranches.

( ) Look in several places until you found some books about how coffee is raised, where our coffee comes from, people who work on coffee ranches.

3. You are going to invite another grade in to hear you tell about what you have learned about Indians. Which way would you choose to work?

( ) Be responsible for finding materials about Indian hunters, life with the Indians, Indian games.

( ) Use some books the teacher looked up for you about Indian hunters, life with the Indians, Indian games.

4. Your parents are invited to hear the class tell about fishing. How would you choose to find things to tell?

( ) Have your teacher find some books for you to read about how cod fishing is done, a trip in a fishing schooner, fishing in the Atlantic Ocean.

( ) Look in different places yourself to find books about how cod fishing is done, a trip in a fishing schooner, fishing in the Atlantic Ocean.

5. If you were going to talk about coal mining, how would you choose to get the information?

( ) Find the material yourself in several different places about how mining is done, dangers of mining, use of canaries in the mine.

( ) Have the teacher tell you what books to use to find out about how mining is done, dangers of mining, use of canaries in the mine.
In order to complete the process of

If you have any questions, please contact us.

Thank you for your cooperation.

[Signature]

Date: [Date]
1. If you were studying about dogs, would you prefer to:

( ) Read about *My Eskimo Dog*

( ) Draw a poster about *Be Kind to Dogs*

( ) Write a story about *Bingo, My Pet Dog*

2. Your room is to entertain another room with a program about fishing. Which would you rather do to make it more interesting?

( ) Paint a picture of sailing boats

( ) Write a report on an imaginary trip on a fishing boat

( ) Make a soap or clay model of a fishing boat

3. The class is going to **give** a program about hobbies. Which would you like to do best?

( ) Write a story about *My Hobby*

( ) Make a model of soap or clay of your favorite hobby

( ) Give a talk about your hobby.

4. Your room wants to find out about Switzerland. Which way would you like best to show what you have found?

( ) Make a model of a Swiss house

( ) Tell the story of some hero of Switzerland

( ) Read about the story of William Tell and the apple

5. A program about airplanes is to be prepared. Would you prefer to:

( ) Report about the first airplanes

( ) Read about pursuit planes

( ) Draw a picture showing different kinds of planes.

6. Your class is planning to study about Indians. Which way would you choose to help?

( ) Draw a picture of an Indian Brave

( ) Read about Indians in Maine

( ) Tell how the Indians made their fires.

7. China is to be studied by the class. What would you choose to do?

( ) Read about Chinese Junks and other boats

( ) Tell the class about Chinese fishing

( ) Make a small Chinese boat out of clay or wood?
8. You are going to entertain some visitors who have come to see what you have learned about South America. Which would you choose to do?

( ) Tell about a make-believe trip to the country where cocoa comes from

( ) Make a model of a small donkey out of wood or soap

( ) Write a letter about the Indians you saw in South America

9. The class is studying about farm animals. Which would you like to do best?

( ) Make a model of a small barn

( ) Write a story of your visit to the farm

( ) Make a picture of something you would see on the farm

10. The class is going to prepare a program about trains. What part would you like to do best?

( ) Write the story about the race between the horse and the engine

( ) Draw a picture of different kinds of trains

( ) Read the story about Peter Cooper's Tom Thumb engine
We would like to find out how you like to work. We don't all like to do things in the same way. One way is interesting to some people while others like a different way. We would like to find out how you like to do things. Check the one you like best in each of the sets.

Sample: - The class is studying about horses. Would you like best to:

   ( ) Have everyone in the class read the same book to find out about Indian ponies, circus horses, wild horses.
   ( ) Have everyone in the class read many different books to find out about Indian ponies, circus horses, wild horses.

1. Your class is to study about cotton. Would you like best to:

   ( ) Have all the children read the same book to find out about raising cotton, the cotton gin, cotton prints.
   ( ) Have each child read many different books to find out about raising cotton, the cotton gin, cotton prints.

2. The class is going to make a study of China. Would you like to:

   ( ) Have each child read many different books to find out about Chinese fishing, Chinese floods, life in China.
   ( ) Have all the children read the same book to find out about Chinese fishing, Chinese floods, life in China.

3. The children are preparing a program. Would you like best to:

   ( ) Have all the children read the same book to find out about rocket planes, transport planes, passenger planes.
   ( ) Have each child read many different books to find out about rocket planes, transport planes, passenger planes.

4. You are preparing a talk for Lincoln's birthday. Which would you like best to do?

   ( ) Have all the children read the same book to find out about Lincoln and the pig, Lincoln the storekeeper, Lincoln and the trunk.
   ( ) Have each child read many different books to find out about Lincoln and the pig, Lincoln the storekeeper, Lincoln and the trunk.

5. Your class is studying about Switzerland. Which way would you like to work?

   ( ) Have each child read many different books to find out about Swiss watches, mountain climbing, Saint Bernard dogs, William Tell.
   ( ) Have all the children read the same book to find out about Swiss watches, mountain climbing, Saint Bernard dogs, William Tell.
1. The class is preparing to give talks on airplanes. Would you like best to:

( ) Have small groups look up material about spotting airplanes, airplanes in war, rocket planes.

( ) Choose a partner and look up material about spotting airplanes, airplanes in war, rocket planes.

2. The class is going to prepare an assembly program about rubber. Which way would you choose to help find things about rubber?

( ) Work with a partner to find out where rubber comes from, what rubber is used for, toys that are made of rubber.

( ) Work with a small group to find out where rubber comes from, what rubber is used for, toys that are made of rubber.

3. The class is preparing to give some talks on flying. Which would you choose to do?

( ) Work with a small group and read about airplane pilots, airplane carriers, mail planes.

( ) Work with a partner and read about airplane pilots, airplane carriers, mail planes.

4. A man is coming to talk about sheep ranching. Which way would you choose to get information before he comes?

( ) Work with a partner and look up about how dogs help the shepherd, life on a sheep ranch, how woolen cloth is made.

( ) Divide the class into small groups and read about how dogs help the shepherd, life on a sheep ranch, how woolen cloth is made.

5. Your class is studying about forests and lumbering. How would you choose to work?

( ) Make the class into small groups and find out about the dangers of the forest, life of the lumber jack, how lumbering is done.

( ) Work with a partner and read about the dangers of the forest, life of the lumber jack, how lumbering is done.
1. Your room is going to prepare a program for Washington's birthday. How would you choose to work?

( ) Find books for yourself, in the room, at the library, or at home about our first president, how people lived in Washington's time, Washington's journey to New York.

( ) Have the teacher find books and give them to you to read about our first president, how people lived in Washington's time, Washington's journey to New York.

2. An assembly program is to be given about coffee. How would you choose to work?

( ) Let the teacher find books for you that will tell about how coffee is raised, where our coffee comes from, people who work on coffee ranches.

( ) Look in several places until you find some books about how coffee is raised, where our coffee comes from, people who work on coffee ranches.

3. You are going to invite another grade in to hear you tell about what you have learned about Indians. Which way would you choose to work?

( ) Find books yourself about Indian hunters, life with the Indians, Indian games.

( ) Use some books the teacher looked up for you about Indian hunters, life with the Indians, Indian games.

4. Your parents are invited to hear the class tell about fishing. How would you choose to find things to tell?

( ) Have your teacher find some books for you to read about how cod fishing is done, a trip in a fishing schooner, fishing in the Atlantic Ocean.

( ) Look in different places yourself to find books about how cod fishing is done, a trip in a fishing schooner, fishing in the Atlantic Ocean.

5. If you were going to talk about coal mining, how would you choose to get the story?

( ) Find books yourself in several different places about how mining is done, dangers of mining, use of canaries in the mine.

( ) Have the teacher tell you what books to use to find out about how mining is done, dangers of mining, use of canaries in the mine.
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( ) Read about My Eskimo Dog
( ) Draw a poster about Be Kind to Dogs
( ) Write a story about Bingo, My Pet Dog

2. Your room is to entertain another room with a program about fishing. Which would you rather do to make it more interesting?

( ) Paint a picture of sailing boats
( ) Write a make-believe story about a trip on a fishing boat.
( ) Make a small soap or clay fishing boat.

3. The class is going to give a program about hobbies. Which would you like to do best?

( ) Write a story about My Hobby
( ) Make a model of soap or clay of your favorite hobby.
( ) Give a talk about your hobby.

4. Your room wants to find out about Switzerland. Which way would you like best to show what you have found?

( ) Make a model of a Swiss house or some other Swiss things.
( ) Tell the story of some hero of Switzerland.
( ) Read the story about William Tell and the apple

5. You are going to have a talk about airplanes. Would you like best to:-

( ) Report about first airplanes
( ) Read about war planes
( ) Draw a picture showing different kinds of planes

6. Your class is planning to study about Indians. Which way would you choose to help?

( ) Draw a picture of an Indian Brave
( ) Read about Indians in Maine
( ) Tell how the Indians made their fires

7. China is to be studied by the class. What would you choose to do?

( ) Read about Chinese boats called junks.
( ) Tell the class about Chinese fishing.
( ) Make a small Chinese boat out of clay or wood.
8. You are going to entertain some visitors who have come to see what you have learned about South America. Which would you choose to do?

( ) Tell about a make-believe trip to the country where cocoa comes from

( ) Make a small donkey out of wood or soap or clay

( ) Write a letter about the Indians you saw in South America

9. The class is studying about farm animals. Which would you like to do best?

( ) Make a model of a small barn or other things found on the farm

( ) Write a story of your visit to the farm

( ) Make a picture of something you would see on the farm

10. The class is going to prepare a program about trains. What part would you like to do best?

( ) Write the story about the race between the horse and the engine

( ) Draw a picture of different kinds of trains

( ) Read the story about Peter Cooper's first engine
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