AN EVALUATION OF AUDIO-VISUAL INSTRUCTION
IN LOW-FIRST GRADE READING

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AN EVALUATION OF AUDIO-VISUAL INSTRUCTION
IN LOW-FIRST GRADE READING

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CHAPTER I

INTRODUCTION

The Problem and Its Purpose

The problem of this investigation was two fold: first, to obtain information on available auditory and visual aids adaptable to teaching reading on the low-first-grade level; and second, to determine the progress in general reading efficiency of three groups of beginning readers who were taught by three different methods.

Since most of the literature concerning the use of auditory and visual material in teaching reading deals with opinions rather than with scientific facts, an effort was made in this investigation to demonstrate experimentally the values of aids in actual classroom situations. Most of the experiments that have been carried on in the reading field, moreover, seem to have been conducted by specialists who were interested in testing the values of visual and auditory aids as a problem within itself. As a result, few, if any of the experiments have been conducted for the specific purpose of discovering the learning values of various aids when they are used in classroom situations. The general purpose of the present investigation was to approach the problem from a practical and workable angle and to determine experimentally
the values of auditory and visual aids in teaching reading in a representative classroom of beginning readers.

Definition of Terms

The term "visual aids" does not, in the broadest sense, apply to mechanical devices alone, but its present-day usage tends to give it the following definition: "Visual education is nothing but education in which visual experiences play the principal role."¹ It means the modification of a human personality through the medium of directed visual observation or the acquisition of learning as the result of such observation. Dorris says that "visual instruction simply means the presentation of knowledge to be gained through the 'seeing experiences.'"²

In the present study, the following visual aids are discussed: the stereograph and stereoscope, blackboard and bulletin board, classroom experiments, school journey, objects, specimens, models, school museum, sand table, pictures, illustrations, prints, flash cards, charts, picture booklets, posters, cartoons, and comic strips. Dramatization is labeled "audio-visual" because it is both heard and seen.

Auditory aids are those teaching tools which can be heard. They include, in the present study, the sound film, the radio, recording equipment, and phonograph records.

²Anna Dorris, What is Visual Instruction, p. 6.
Limitations of the Study

The present reading experiment possessed two major limitations. The first was that the educational literature regarding audio-visual aids is so extensive that only those which pertained directly to low-first-grade reading were included. The second was that the descriptions of the reading procedures in Sections A, B, and C were subjective delineations and represented only the observations and judgment of the writer. The preceding limitations should be considered in any evaluation of the present problem.

Source of Data

One hundred and one low-first-grade pupils in the Luther Burbank School, Houston, Texas, were used as primary sources of data in the present reading experiment which was begun in February, 1947, and was completed in the following May. Three classroom teachers who taught the 101 children were used as primary sources, also. The school, which is located one mile north of the city limits, had an enrollment of 1,250 in the junior high grades and 1,250 in the elementary and required from three to six sections for each half grade in 1946-47.

Eighty-seven teachers were employed. Three of them, including the writer, were participants in the experiment. These three teachers had almost equal academic qualifications and teaching experience. A check of personnel records showed
that each one held a Bachelor of Arts degree, and had seven years or more of teaching experience. Each had been in her respective school system seven years.

Secondary sources of data included tests, books, pamphlets, and periodicals which dealt with the problem of auditory and visual teaching devices. The aids used in the experiment comprised the final source of data.

Method of Procedure

The first step in setting up the present study was a conference with the assistant principal of the school, the supervisor, and the teachers of the three groups which were selected for the experiment. The particular groups were selected because of the writer's assurance of cooperation from their teachers. The children also were known to have comparable economic and social backgrounds.

The second step in the investigation included selection of pupils for the experiment. The groups were equated upon the basis of mental maturity as scored by the Pintner-Cunningham Primary Tests, Form A. This test was administered to thirty-two pupils in one low-first-grade group, to thirty-four in another low-first-grade group, and to thirty-five in a third group in February, 1947.

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3 R. Pintner and E. V. Cunningham, Pintner-Cunningham Primary Tests, Form A. (1939).
The mental maturity test was followed by the Metropolitan Readiness Test. Each teacher administered the tests to her own group, because it was believed that in so doing the factor of social adjustment would have less effect upon the results of the scores. Before giving the tests, the teachers met and discussed details of instructions to insure accuracy and uniformity in the administration. The tests were carefully scored by each teacher and checked by the writer.

The mental age of each child was determined, and then the groups were paired accordingly. The groups were designated as A, B, and C. The children were assigned to 1-A, 1-B, and 1-C, 2-A, 2-B, 2-C, and so on until all pupils were placed in one of the three groups. No three children were given a number if there were a difference of more than one point in the raw scores of mental tests, or if there appeared to be too great a difference in chronological ages. The factor of chronological age was not a definite determination of equation, however, as children with the same mental ages were believed to be capable of doing comparable work, regardless of chronological ages.

The three groups were designated as Section A, B, and C. Section A's instruction included only the traditional textbook, with no auditory or visual aids; Section B's program included a limited amount of visual and auditory material; Section C's program included a wide variety of materials.

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4 Gertrude Hildreth and Nellie L. Griffiths, Metropolitan Readiness Test, (1939).
and Section C's activities included extensive and consistent use of visual and auditory teaching devices.

After the groups were paired according to mental ages, Section B showed a slight superiority over Section A in both median mental age and in the initial scores of the Metropolitan Readiness Tests. It was noted that Section B had a median mental age of seventy-eight months in comparison with 82.3 months for Section A, and 75.7 for Section C. Section A had a median readiness score of 87.6, whereas Section B had 87.3 and Section C had 81.7. The scores were considered a fair equation of the three groups, and the difference in mental age and readiness appeared to be negligible.

After fifteen weeks of a preparatory reading program, the Metropolitan Readiness Test\(^5\) was administered again. Because of the period of time which lapsed between the testing programs, it was believed that the items of the tests were not remembered well enough to influence the test scores. The tests were not mentioned to the pupils from the time of their first administration until the second. The final tests were given to all the pupils of each group, and the scores were used by the teachers in remedial teaching.

\(^{5}\) Gertrude Hildreth and Nellie L. Griffiths, op. cit.
Organization and Treatment of Data

When all necessary information on the present experiment was obtained from both primary and secondary sources, the data were organized into chapters. The first chapter includes an introduction to the investigation. It consists of a statement of the problem and its purpose, sources of data, method of procedure, the apparent value of auditory and visual aids, and organization of material. The second chapter deals with various types of auditory and visual aids in relation to reading readiness and to formal instruction in reading. The third chapter contains a discussion of the teaching procedures used in the study, while the fourth chapter sets forth the results of the experiment. A summary, with the findings and conclusions, appears in the fifth and final chapter.
CHAPTER II

AUDITORY AND VISUAL AIDS AS RELATED TO
THE TEACHING OF BEGINNING READING

Much has been written and said concerning the values of visual and auditory aids as teaching devices. Many educators believe that their use is justified, and that their values are unexcelled.

It has been said that "the success of the schools must be rated on the success, not on the failures, of the pupils in these schools."¹ As a result of this widespread philosophy, classroom teachers have been searching for methods and materials which tend to reduce pupil failures and to increase pupil successes. One result is the introduction of auditory and visual aids in practically all modern schools. Austin emphasizes the value of these aids as teaching instruments in the following excerpt:

Gaining experience without visual aid is almost like studying piano with a wooden key board. . . . First it was a fad to buy films and maps because it was the thing to do. Then it was a luxury but now it is a necessity.²

¹Harry C. McKown and Alvin B. Roberts, Audio-Visual Aids to Instruction, p. v.
Townsend and Stewart agree with many other educators in their views regarding auditory and visual aids in the following comments:

... modern science continues to perfect in truly remarkable manner the aesthetic quality, the availability and adaptability of these aids; educational psychology tends to indicate more and more their application and response; the present day trend in the teaching of social studies to integrate art and music demands them; and finally, the growing number of educational groups tend to include those to whom a more effective appeal may be made through the senses than through the written word. 3

The present chapter contains two discussions, the first of which is reading readiness and its dependence upon auditory and visual instruction. The second discussion is centered around various types of visual and auditory aids and their values, especially in connection with reading instruction in the low-first grade.

Reading Readiness

A discussion of auditory and visual instruction's relation to the reading program on the low-first grade level would be incomplete and vague without a consideration of the problem of readiness for reading. This phase of instruction in the primary grades has received much attention within recent years. Smith and Jensen define their conception of reading readiness in the following paragraph:

3Mary E. Townsend and Alice G. Stewart, Audio-Visual Aids for Teachers, Foreword.
Reading readiness means the maturation of all mental, physical, and emotional factors involved in the reading process. Regardless of the chronological age of the child, the point at which the child's growth and development have brought about proper maturation of these factors should be the point at which the reading process begins.\textsuperscript{4}

Educators and classroom teachers have begun to realize the importance and the necessity of a definite preparatory phase of development in most first-grade children before they are presented with formal instruction in reading. This preparation for learning the printed word is generally called "reading readiness." Significance of this period is given much emphasis in primary education today. Experimentation and investigation have led teachers to realize that ultimate benefit can be obtained from a program that effectively provides for the development of various abilities necessary for a successful introduction to reading. Gray and Monroe emphasize the reading readiness program in the following comments:

One of the most significant and far-reaching developments in the teaching of reading within recent years is the growing recognition of the importance of a preparatory period for learning to read. The activities used in developing reading readiness are now considered equally as important as actual reading instruction.\textsuperscript{5}

\textsuperscript{4} C. A. Smith and M. R. Jenson, "Educational, Psychological, and Physiological Factors in Reading Readiness," Elementary School Journal, XXXVI (1936), 583-94.

\textsuperscript{5} W. S. Gray and Marion Monroe, Before They Read, p. 7.
It is generally agreed that children should obtain a readiness for various performances, such as walking, and talking, before these skills are perfected. Learning to read also requires readiness.

The maturation of the psychological and physical factors that tend to assure a readiness to read probably evolves at a different chronological age in each child. To force reading instruction upon a pupil who has not reached this readiness often results in nervous strain, poor reading, and an undesirable attitude toward reading. Betts recommends that no formal reading instruction should be given a child until he has a need for reading and is mature enough to meet the need. Harris concludes that much present-day retardation of first-grade pupils can be prevented by an effective reading-readiness program. Carleton Washburne sounds a warning to teachers about the child when he says that "to try to teach him before he has reached this ripeness is not only inefficient and wasteful but may permanently blight his learning."

Most psychologists classify the factors involved in reading readiness as psychological, physiological, and

6 M. Lucile Harrison, Reading Readiness, p. 2.
8 A. J. Harris, How To Increase Reading Ability, p. 48.
emotional. Probably a majority of authorities agree that a mental age of six is essential, and that six and a half is preferable.\textsuperscript{10} Witty and Kopel remind us in the following comment that this is by no means the only factor to be considered:

Although mental age has been emphasized as a crucial factor in reading success, other items also are being stressed, and a more comprehensive concept of reading readiness is emerging. Mental age is now regarded as one item only in the constellation of inter-related psychological factors which determine reading readiness.\textsuperscript{11}

A background of rich and varied experiences is another psychological factor which appears to influence reading readiness. Necessarily, this factor is conditioned largely by the child's parents, their economic and social status, and their intelligence and education. If the home environment lacks rich and important experiences, which provide a meaningful background of concepts for reading, the child faces a handicap in attempting to understand what he learns to read.

The physiological factors involved in reading readiness often can be discovered more readily than the more obscure psychological factors. In general, these factors include visual and auditory acuity, proper nutrition, eye muscular coordination, and all other aspects of general good health.

\textsuperscript{10} Charles D. Dean, "Predicting First-Grade Reading Achievement," \textit{Elementary School Journal}, XXXIX (January, 1939), 609-16.

\textsuperscript{11} Paul Witty and David Kopel, \textit{Reading and The Educational Process}, p. 172.
No child can be expected to engage in a reading situation with effectiveness, enthusiasm, and interest if he has physiological handicaps. Such impediments assume importance according to their seriousness in each individual child, but in most cases hearing and vision are more closely related to reading and therefore affect a child's ultimate success more directly than certain other factors.

Emotional maturity and social adjustment are other problems that are significant in the reading program of every child. When he enters school, he must be emotionally stable enough to participate satisfactorily in group experiences. An adjustment to the school situation, to other pupils, and to adults who direct the school program, precedes any possible success in the learning-to-read process.

An effort to determine that status of each child in relation to readiness for reading should precede reading instruction. This determination may be accomplished by the use of intelligence tests, reading readiness tests, personal observation, and questionnaires. After a comprehensive measurement has made the classification of each child possible, an effective reading readiness program should be introduced. The principles of this program should be based upon the individual needs of the pupils. Such factors as the teacher, physical conditions and appearance of the classroom, and provisions for real and for vicarious experiences, are very significant. Upon these factors often
hinges the effective development of the child's ability to acquire a wide speaking vocabulary, a satisfactory fluency in the use of sentences, a strengthening of the thinking process, a connection of ideas, and correct habits of pronunciation and enunciation which are necessary abilities for satisfactory reading.

The traditional requirement for an introduction to reading was a chronological age of six years. When a child reached this age, he automatically was enrolled in the first grade and immediately began to try to learn how to read, regardless of his background, or his mental, physical, and social development. This method continues to prevail in many schools throughout the land, but Gates and Bartlett\textsuperscript{12} report that conscientious classroom teachers and far-seeing supervisors, principals, and superintendents are endeavoring to make a more adequate provision for the development of the necessary factors which are conducive to effective reading. In many instances, provisions include various auditory and visual aids. A reading readiness program based upon these aids, demands a new-type curriculum for the first grade. The variety of backgrounds and experiences, the range of intelligence, the varied physical, emotional, and social development of six-year-old children demand methods and materials that will provide for individual differences.

To summarize, it may be said that instead of the attainment of a chronological age of six years for school enrollment, a child should have developed a readiness for reading through the maturation of certain psychological, physiological, and emotional factors before the formal reading program is introduced. An understanding of these vital factors involved in reading readiness is a prerequisite to any effective pre-reading and reading program.

Auditory and Visual Aids Available for Teaching Reading in the Low-First Grade

The motion picture.--Motion pictures are valuable aids for enriching the child's vicarious experiences. Much controversy has ensued over the type of pictures which can be labeled educational, but recently films, both silent and sound, have been produced which are based upon the interests and vocabulary of first-grade children. They are valuable for information, stimulation, and examples. Dorris makes the following observation regarding the value of visual instruction, which is one of the outstanding characteristics of the film:

Education must provide for the training of the senses, particularly the eye. The eye is the most important teacher. The sense of sight is the strongest of the senses and the widest avenue to the brain. Education through vision forms a most adequate basis for training the small child.  

13 Anna V. Dorris, Visual Instruction, p. 68.
Lewis sums up the advantages to be gained from using the motion picture as a teaching device in the following comments:

1. Pictures impart information faster than do words.
2. By imparting information rapidly, pictures around and hold the interest of children.
3. By arousing interest the picture opens the way to self-activity which is the essence of all education.14

Radio.—The use of radio as an auditory aid in the classroom appears to be limited only by the ability of teachers to utilize this device.15 A few broadcasting companies and commercial organizations have presented children’s programs for several years. Today, similar programs are designed not only for commercial purposes but also for instructional functions. Probably no other medium is so valuable as radio for disseminating information. To the degree that such data tend to enlighten children, to interest them, and stimulate them, radio is a valuable teaching tool and can mean much to first-grade teachers as they guide children in the reading process. Radio educational development has included the use of radio programs as an aid to classroom instruction, broadcast of school programs for public relation purposes, and an evaluation of both classroom reception and

broadcasting techniques. These methods have proved to be very effective as teaching aids.

It has been said, "the best actors come into the humblest classroom via the victrola, the motion picture, the radio program; the finest musicians and artists make a suitable setting for comprehension of literary works." As a result of the use of radio as a teaching device, Harrison says that "a desirable effect of radio programs is the stimulation to further reading." Regarding the future of such an aid, the following comment has been made:

To the teacher of today, talkies, radio, and television may seem costly, cumbersome, and strange as instruments of instruction, but tomorrow they will be as common as the book and powerful in their effect on learning and teaching.

Lantern slides.—These devices are especially valuable for illustration of stories and poems. They aid in expansion of the child's information, therefore they help to establish meaningful concepts that are necessary to

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17 Katherine E. Wheeling and Jane Anderson Hilson, Audio-Visual Material for Junior and Senior High School Reading.

18 Margaret Harrison, Radio in the Classroom, p. ix.


20 Dent, op. cit., p. 52.
to comprehensive reading. There are many kinds and sizes of slides, and they can be used to meet individual needs of the children. In the first grade, slides may be used to teach reading. Instead of using a screen on which to project the pictures, the blackboard is used. As a child names the object in the pictures, the teacher writes the words or phrases across the object in the picture. After the picture is removed, the pupils are supposed to read the words or phrases on the board. If they fail to recognize the words, the picture is flashed on again so the pupils may correctly associate the words with the object. Later the words are used in sentences.

Recording equipment.—Speech, music, and any other type of audible sound may be recorded and reproduced immediately by means of instantaneous recording equipment.\(^2\) Practical uses of this auditory aid include detection and correction of speech irregularities and difficulties. By means of this device, the child hears himself as other people hear him. Such an aid can be used effectively in the reading program of primary grades and appears to be gaining in popularity with teachers of young children.

Phonograph records.—Several auditory inventions have recently been adapted to the instructional functions of the

\(^{2}\) Ibid., p. 138.
average classroom. Among them is the phonograph. Records can be used to tell stories. They can serve as examples of proper pronunciation and enunciation of foreign languages and spoken English. Recordings of radio programs make possible the utilization of these programs at appropriate time and as often as seems advisable.  

The stereograph and stereoscope.--The stereograph is a third-dimension picture which is looked at through the stereoscope. By means of these two visual aids the great wonders of nature throughout the world can be presented truthfully and vividly to beginning readers. This pictorial approach has the power to increase information, stimulate interest, and extend the child's vocabulary.  

Blackboards and bulletin boards.--Educational opportunities are offered in every classroom by the blackboard and the bulletin board. These two visual aids provide opportunity for teacher-pupil activity and are easily available and economical. In practically all classrooms they are essential vehicles for teaching reading, as well as other subjects.  

Classroom experiments.--Classroom experiments, such as germination of seeds, growing of insects, preparation of an aquarium, and other similar activities, can be of invaluable

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22 Ibid., pp. 128-130.
23 Ibid., pp. 46-50.
aid in developing first-grade pupils' informational background. These experiments should be active and purposeful and should be directly related to the objective for which they are designed.²⁵

**School journey.**—Provision for sensory experience pertaining to certain things which cannot be brought into the classroom can be made by means of the school excursion. Scenes, objects, situations, and relationships may be learned more easily and the knowledge retained longer if children are conducted to places where the subject matter of instruction may be seen. The objectives of art, relationships of geography, realism of literature, and other desired objectives may be better understood and more quickly grasped by means of the school journey because it is a cooperative enterprise, provides a natural setting for instruction, and gives an opportunity for real experiences.²⁶

**Dramatization.**—This activity has long been a means of teaching facts and developing appreciations and skills among first-grade children. Nursery rhymes, age-old legends, new stories, and jingles often are media for stimulation and instruction.²⁷

**Objects, specimens and models.**—Modern educational procedure in many first-grade rooms begins with collections of

objects, specimens, and models. These devices provide a correct representation and are valuable for developing concepts, enlarging vocabulary, and creating interest.28

The school museum.—One of the most useful and informative service units in the representative first-grade classroom is the museum.29 It houses objects, specimens, and models. Through it, materials needed for instructional purposes are available at appropriate times. Because the museum is generally adaptable to almost any situation, it has become a valuable visual aid and is considered almost indispensable by many teachers of beginning reading.

The sand table.—This medium of instruction probably is used more extensively by first-grade teachers than any other visual aid. This may be due to its availability, economy, and motivation possibilities for promoting reading readiness. It is one of the most adaptable of all teaching devices and can be used successfully in all grades.30

Pictures, illustrations, and prints.—A heritage of pictures and illustrations has been handed down through the ages. Scenes on rough walls of cave homes were drawn by prehistoric men. Tombs and temples of the Egyptians were decorated with illustrated episodes from life. Interpretations of battles, victories, loves, and hates of the Greeks and Romans were carved on temples and other public buildings.

Stories in colored glass were assembled by early Christians.

It has been said that, "there are some children who do not like to read, but every child enjoys looking at pictures." The use of pictures, illustrations and prints provides an excellent medium of developing meaningful concepts through vicarious experiences. These teaching tools often clarify many concepts of unfamiliar experiences. They can give meaning to new words, stimulate interest, and provide impetus for group discussion. Many colored pictures are inexpensive and are easily obtained from picture books and magazines. They may be mounted and used for room decoration, bulletin board display, or experience charts.

Pennell and Cusack, as well as many other reading authorities, are of the opinion that "much can be done to stimulate a child’s desire to read by placing attractive reading materials in his environment." An opaque projector, which will project all types of flat pictures in enlargements, is designed to increase the child's interest and to provide for group observation.

**Flash cards and charts.**—Most primary teachers are acquainted with flash cards, and charts because they have

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32 *Dent, op. cit.*., pp. 34-46.

33 Mary E. Pennell and Alice M. Cusack, *The Teaching of Reading for Better Living*, p. 7.
been recommended as teaching devices for a long time. They are not new tools in the average classroom, but today many additional uses are being made of both media. Words, phrases, and sentences to be learned by beginning readers are more easily visualized when they are presented by flash cards and charts. Children's experiences are easily reproduced on charts and often can be read quickly by beginners. Although these two aids are among the oldest in use by primary teachers, they are considered to be among the most valuable.

The picture booklets.—These teaching tools have few limitations upon their construction or uses.34 They are particularly valuable in beginning reading, because children generally are attracted easily to pictures. Booklets may be individual accomplishments, or they may represent a class project. Whatever type they may be, the result of their construction and use should be extension of vocabulary, enrichment of experiences, and motivation of learning.

Posters.—Generally, an instant appeal is gained by the use of a poster, whether it is a simple printed card or a highly artistic picture.35 Often the printed message is short and easily read. Sometimes the posters are made by the children and contain pictures of their interpretations. As a visual aid, posters can be effective in developing an

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34 McKown and Roberts, op. cit., p. 244.
35 Ibid., p. 93.
idea, principle or concept in the minds of young readers and should be used often.

The cartoon and comic strip. These aids, which formerly were classified as being read for entertainment only, now are being used in appraising, interpreting, and emphasizing concepts in the schoolroom. Because of their uniqueness and simplicity, they generally attract the attention of young children. Factual material can be vitalized by the "funnies," provided that the teacher chooses the material wisely and presents it effectively.

Summary

Reading readiness is a prerequisite to formal instruction in reading for low-first-grade children. This preparatory period is concerned with maturation of psychological, physiological, and emotional factors in the child. The following auditory and visual aids have been recommended as available instructional tools for beginning readers: the motion picture, radio, lantern slides, recording equipment, phonograph records, stereoscope, blackboard, bulletin board, classroom experiments, school journey, dramatization, objects, specimen, models, museum, sandtable, pictures, illustrations, prints, flash cards, charts, picture booklets, posters, cartoons, and comic strips.

Ibid., p. 93.
CHAPTER III

PROCEDURES USED FOR TEACHING READING IN THREE LOW-FIRST-GRADE SECTIONS OF THE LUTHER BURBANK SCHOOL, HOUSTON, TEXAS

In the introductory chapter of this study it was stated that three sections of low-first-grade pupils in the Luther Burbank School of Houston, Texas, were selected as participants in the present reading experiment. The children had comparable social and economic backgrounds and were equated upon the basis of mental maturity, as scored by the Pintner-Cunningham Primary Tests Form A.\(^1\) The mental maturity test was followed by the Metropolitan Readiness Test.\(^2\) The discussions which are contained in this chapter center around the teaching procedures employed in the initial reading program of Sections A, B, and C, after the sections were equated.

Procedures Used in the Reading Program of Section A

Thirty-two children in this group were given the book, Now We Read\(^3\) at the beginning of school. They were taught

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\(^1\) R. Pintner and E. C. Cunningham, \textit{op. cit.}

\(^2\) Gertrude Hildrath and Nellie L. Griffiths, \textit{op. cit.}

\(^3\) Nellie Griffiths and Others, \textit{Now We Read.}
with the picture stories contained in the book. Their
drawings were about these stories. Their first reading
lessons were from The Big Book, which is adapted from the
first twenty pages of We Look and See.\textsuperscript{4} It was in a very
large print and contained big pictures.

The children in Section A were divided into three groups,
according to their mental ages. They were kept in the same
group, regardless of their progress or their retardation.
They were given word games to play within groups at different
times. Some of them were given phrases to learn and repeat.
Only the words contained in the following basic readers were
taught: Now We Read,\textsuperscript{5} We Look and See,\textsuperscript{6} We Work and Play,\textsuperscript{7}
We Come and Go,\textsuperscript{8} and Fun With Dick and Jane.\textsuperscript{9} One work
book, Think-and-Do Book\textsuperscript{10} was used in connection with Fun
With Dick and Jane.\textsuperscript{11}

The preceding basic readers and the work book contained
the following interest centers: pets, toys, work and play

\textsuperscript{4}William S. Grey, Dorothy Baruch, and Elizabeth
Montgomery, We Look and See.
\textsuperscript{5}Nellie Griffiths and Others, op. cit.
\textsuperscript{6}William S. Grey, Dorothy Baruch, and Elizabeth Montgomery,
op. cit.
\textsuperscript{7}Ibid., We Work and Play.
\textsuperscript{8}Ibid., We Come and Go.
\textsuperscript{9}William S. Grey and Mary Hill Arthubnoth, Fun with Dick
and Jane, pp. 1-80.
\textsuperscript{10}William S. Grey and Marion Monroe, Think-and-Do Book.
\textsuperscript{11}William S. Grey and Mary Hill Arthubnoth, op. cit.
at home, a trip to the farm, story-book friends, a trip to the zoo, a family party, and fun with friends. Reading procedures from the use of these books included the development of oral vocabulary and visual recognition of new words, running words, carried-over words, different words, and new words. The teacher used only the traditional procedure and no audio-visual aids in her effort to promote growth in oral language, visual and auditory discrimination, muscular coordination, and thinking power. She used only traditional methods and materials for establishing sight vocabulary, developing word-attack skills, and promoting language growth and thoughtful reading.

Procedures Used in the Reading Program of Section B

The pupils in Section B were taught beginning reading with all of the traditional methods and materials employed in Section A. In addition, they utilized a few auditory and visual aids at various times but not systematically nor extensively. Some experience charts were used when the children made their own stories and told about their pets. The classroom contained a piano, which was used for teaching songs and singing games. Most of the time flowers were kept in the room. A fish bowl, with two gold fish and several water snails, offered an opportunity for a few class experiments. The bulletin board had a new poem each week and pictures to illustrate the thoughts contained in the poem. With these traditional methods and few audio-visual aids, the
teacher of Section B0 endeavored to achieve reading readiness and develop basic reading skills and abilities in thirty-four low-first-grade pupils.

Procedures Used in the Reading Program of Section C

Thirty-five low-first-grade children in Section C were taught almost altogether with audio-visual methods and materials. These aids were not used to the exclusion of basic and supplementary readers but were used in connection with them for enriching the pupils' experiences. The children were often reminded that they were reading to learn and not merely learning to read. The basic readers were easy to read, so that the children's attention was not distracted primarily to the concepts which were contained in the reading material. An effort was made to develop sequentially desirable concepts and understandings. Life-like situations were designed by which the children could clarify and organize their experiences in the various curriculum fields. At the same time, opportunities were presented by natural approaches which helped the pupils to discover new interests and improve their behavior patterns.

Personal development was stressed in the reading-readiness program. The children were given opportunities to gain self-reliance through learning how to do various things. Opportunities were provided for them to accept some responsibility of caring for their bodies, their clothes, and their toys.
The older pupils were given some responsibility for guiding and protecting the younger children. Opportunities were provided for learning how to make the best of an unfortunate situation, how to take a joke, how to accept disappointment, how to share, how to be unselfish, and how to act and react in other situations where social problems were concerned.

The children were provided with experiences of having pleasant relations with other people. They found that great satisfaction could be derived from helping others. They discussed how to appreciate and enjoy members of the family and friends, and they seemed to enjoy happy relationships at school most of the time.

The same basic readers and work book were used in Section C as were used in Sections A and B. In addition, the following supplementary readers were used: My Dog Laddie, Biddy and the Ducks, Frisky the Goat, Little White Rabbit, Peanuts the Pony, and Hundreds of Turkeys.

Seventeen audio-visual aids were used in the reading experiment which formed the nucleus for the present study.

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12 Edith Oswald and Mary M. Reed, My Dog Laddie.
13 Arensa Sondergaard and Mary M. Reed, Biddy and the Ducks.
14 Edith Oswald and Mary M. Reed, Frisky the Goat.
15 Edith Oswald and Mary M. Reed, Little White Rabbit.
16 Arensa Sondergaard and Mary M. Reed, Peanuts the Pony.
17 Edith Oswald and Mary M. Reed, Hundreds of Turkeys.
Each aid is discussed separately in the pages that follow. Pictures which were made during the experiment are included with several discussions.

**The phonograph.**—Much background information was supplied by phonograph records. In addition to providing means for learning songs, rhythm, and sounds of different instruments, recordings were valuable for developing various interest centers. Songs of different lands provided material on global relations and on manners and customs of foreign lands. Little friends in other countries became very near to the pupils in Section C through vicarious experiences provided by the phonograph.

**Lantern slides.**—The children in Section C made many lantern slides. They used colored pictures on glass which proved interesting and instructional. Health concepts were easily emphasized as the children made slides of correct methods of brushing their teeth, correct posture, healthful foods, and many other natural activities. Such health concepts as cleanliness, orderliness, nutrition, keeping well and strong, safety, and personal development were developed in the discussions about home and family life. Morning routines, washing before and after meals, use of the tooth brush, and keeping possessions neat and clean were demonstrated. The importance of good meals, moderation in eating sweets and other foods, avoiding the eating of unknown substances, and other similar concepts were developed.
Experiences were provided for learning to obey traffic rules as the children came from home to school and returned. The significance of moderation and safety at play was emphasized. Safety with animals was encouraged, and measures for preventing accidents at play were dramatized. Then the children composed stories, rhymes and jingles about the concepts and put them on slides. Often these original compositions were placed on charts or thrown on the screen, and the pupils delighted to read about what they had made. Many other centers of interest were developed similarly and enlarged upon by means of lantern slides.

The radio.—Although the visual element was lacking in this auditory aid, a number of advantages made up for this inadequacy. The radio in Section C’s room helped to enrich the curriculum. It increased interest and developed the pupils’ appreciation for good programs. The story hour was heard daily and then was dramatized. Pictures were drawn about the stories which were heard and were flashed on the screen by means of the opaque projector. Often the stories were reproduced on the flannel board.

The radio was especially valuable in promoting auditory discrimination. Hearing certain words spoken helped the children to learn the words. In addition to building a background of factual knowledge, the radio was useful in teaching proper pronunciation and articulation.
The motion picture.--Films proved to be an invaluable aid in the reading program of Section C. For example, one morning a little boy saw a squirrel. The children were interested in finding out something about this animal. They were shown a motion picture "Gray Squirrel." After a discussion of the film by the children, with many misconceptions cleared up, it was shown again the next day. The machine was stopped several times during the showing for comments by the children. The third time it was shown, the sound was turned off, and the pupils took turns about being the commentator for the picture. They carried on many activities as a result of the film, such as writing stories, poems, and songs, and drawing pictures about squirrels. Other visual aids used in teaching about the squirrel were lantern slides, a stuffed squirrel, magazine pictures, and illustrations in books.

Silent films were useful for promoting thinking power. They provided opportunities for noting details, recognizing main ideas, making inferences as to what had happened or would happen, and what characters were saying, thinking, or doing.

The teacher made motion pictures of the children in Section C. When they played a game and liked it, she made a picture of the activity. Pictures also were made of the Christmas play. The pupils never tired of seeing those
pictures. A reading lesson always grew out of a motion picture show.

**Puppets.**--The children in Section C made a puppet show of the "Three Billy Goats." They made the goats and the troll from clay and painted them with showcard colors. They invited the pupils in other rooms to see the show. Many reading lessons grew out of this activity, because ideas were presented with extreme simplicity. The play, of course, was based on action rather than on words, and provided an opportunity for the children to choose words as they discussed the play.

**Flash cards.**--These teaching aids were used extensively in the reading program of Section C for promoting visual discrimination. They helped the children to distinguish the different kinds of words, such as action words, color words, direction words, name words, and others. They also were useful in aiding the pupils to combine words into sentences, and to combine short sentences into short stories.

**The film strip.**--This instructional tool was a valuable teaching instrument for promoting muscular coordination, because it required using left-to-right eye movement. It also provided information and thereby promoted growth in oral language. Visual discrimination was encouraged as the pupils recognized likeness and difference in contour, color, size, and other noticeable characteristics of objects which were flashed on the screen.
Since the film strips were easily available and fairly economical, they were used often in the reading program of Section C. Many new interest centers were discovered by means of these aids.

**Excursions.**—School journeys within the city offered opportunities for promoting growth in oral language. After an excursion, or while on the excursion, the children told about their personal experiences. They composed original stories about what they saw, or heard, or did. They dramatized their experiences and told stories which were related to incidents of the excursion. They brought back to the classroom specimens and objects, such as leaves, rocks, shells, and flowers. They also brought back new ideas about community resources. The experiences of excursions often were put on picture slides and were flashed on the blackboard or screen. When a child named the objects in the picture, the words were written across the object in the slide. When the picture was removed, some child read the words on the board. If he failed to recognize the words, the picture was flashed again so that he might correctly associate the words with the objects. Personal experience is the best teacher. The surrounding atmosphere and natural environment add much to create more vivid and lasting impressions.
Fig. 1--Charts

Charts.--Figure 1 shows a boat picture which was found by the boy in the photograph. He made the story about the boat and drew many pictures of sailing vessels.

The flash cards beneath the charts were used in matching words and other games. The other charts in the picture were made when the class studied about "Jane helping mother work." Much emphasis was placed on the family as a social unit. Pictures, stories, and the children's experiences were often
related to home as the center of family life. The size and membership of the pupils' families were discussed; families' names were learned; and the problem of adjusting family differences often was referred to by the group. Duties and responsibilities of each member of the family were emphasized in pictures, stories, charts, and songs. Mention was made of the postman, milkman, and other workers who serviced the home and made contributions to family life.

The physical aspects of the home were pointed out. Different types of houses were noticed, and the furnishings were discussed. Often opportunities were presented for emphasizing ways, means, and the importance of making friends in new communities and environments. The difference in farm and city life also was noted. This discussion brought up the problem of the sources of food and ways of making a living. The related subjects of communications and transportation naturally appeared.

The home as a source of recreation was discussed also. The children talked about the ways of having good times at home, both indoors and outdoors. Much interest was manifested in family and holiday celebrations. Generally all of the discussions about home were concluded with projected ideas about mutual helpfulness and happiness.
Fig. 2--Posters

Posters.--Figure 2 shows a part of two reading tables. Section C had many interesting books. Stories contained in them furnished ideas for many posters. These devices were used to arouse interest, to teach specific items of subject-matter, to communicate general ideas or concepts, and to create an atmospheric effect which was related to the reading program. The posters in the immediate picture were related to bird life and were made by the children.
School museum.—Near the window in the picture shown in Figure 3 is seen one corner of the aquarium. It contained a turtle and three striped snails. The children kept fresh water and something green for the snails and the turtle. They had a horned toad and a hop toad at the beginning of school, but had to turn them out because they would not eat. One time they had frog eggs and tadpoles that developed into frogs. These studies in their natural settings provided rich material for the reading program in Section C.
Fig. 4--Objects and Models

**Objects and models.**--Raggedy Ann and Raggedy Andy, in Figure 4, were two dolls. Some one found a picture of them and it was put on the wall. The children read a story about the dolls and wrote a poem about them. They made several dresses and suits for them, and their attires were changed many times each day.

The telephone seen in the picture was used to call mothers and to carry on conversations with the children's
friends. This device was very useful in teaching numbers. Every child wanted to learn his telephone number, and the telephone met this need.

The big A, B, C blocks which are shown in the picture, were attractively colored. They helped the children to learn what it means to count and how to count from one to ten. They soon discovered the ordinal use of numbers to indicate position and sequence and found that the position of objects in a small group could be determined without counting. The blocks also were used in many ways with number stories, and were used in teaching colors. They proved to be valuable in building many things used in the low-first grade.

Three wooden puzzles were kept for the children to put together. A box full of toys and the box of clay were never idle. Spools were used for counting and building. A watermelon picture on the bulletin board was used to make stories about vacation. A mirror on the wall was utilized every day when the children talked about their personal appearance. Fire hats were used when a fire drill was called. Large flags were carried when the children marched or sang songs about the flag. One box was filled with dishes. The pupils had many happy times and learned valuable lessons on how to set a table, how to serve, and other table etiquette.
Fig. 5--Flannel Board

The flannel board.--This device in Figure 5 was a very useful visual aid. The pictures had flannel on the back and were stuck on the flannel board very easily. The children matched the pictures with words. They made many stories by putting the pictures on the board.

Above the board in the picture is a graph that was used by the pupils. They found their own names and colored a block by it when they knew all the words in one group, or could write their name, or could count.
The blackboard.—Many uses were made of the blackboard, shown in Figure 6, during the reading experiment under consideration. The children wrote on the board often. They loved to write large and with colored chalk. The alphabet seen on the board was made with two colors of chalk. The dots above the board were used for patterns of numbers, and many number stories were made from them. The teacher always endeavored to keep the blackboard legible and attractive and not to put too much on it at one time.
Fig. 7—Schoolroom Experiments

Schoolroom experiments.—Figure 7 is a picture of one corner in Section C's library where many schoolroom experiments were made. The table and seats were constructed from nail kegs. They were painted by the children but were cut out by the shop attendants. The large fish bowl, with two gold fish and five water snails, was very interesting. The pupils learned to feed and care for their pets. They made many stories and learned poems and songs about them.
One day on a field trip the children found a large cocoon hanging on a tree. They took it down carefully and carried it back to school. When it hatched into a polyphemus, they kept it in a cage for three days. Then they put it to sleep, so they could mount it and place it on the bulletin board with many other moths and butterflies. In the preceding photograph are other flat pictures that were used for stories and science lessons. These pictures were used in the opaque projector. They were used more frequently than some of the other visual aids, because they were more easily available.

The sand table.—Children in Section C used the sand-table in many ways. They built a farm, made houses and planted a crop. The farmer, his family, and the farm animals were made from clay. Concepts were formed about how to enjoy rural beauties and how each member of the farm family had certain responsibilities. Getting food from the country was an interesting topic. Many reading lessons were developed from the study of rural life.

Different seasons provided opportunities for varied uses of the sandtable. All of them were enjoyable and enriched the initial reading program of the children.
Fig. 8—Pictures and Illustrations

Pictures and illustrations.—The easel, shown in Figure 8, was used every day in Section C. Some child always had a story to draw with crayons, colored chalk, or poster paints. The above photograph shows a picture that was drawn after a reading lesson on "mother works." The calendar in this picture was used to check days and score the weather.

The seasons provided an opportunity for the children to learn much about weather. They talked about heat, cold, sun, rain, and wind, and understood from these elements that there are different kinds of weather. They noticed that seasons have characteristic weather conditions, and that these conditions vary in summer, autumn, winter, and spring. They observed that people need to adjust their activities and their clothes to the changes in weather and in seasons.
A chart is seen in the background of the preceding photograph. An understanding of animals and their modes of living was gained by the aid of this chart. The study was very interesting and informative. The children discovered definite physical features by which animals could be distinguished, such as color, marking, general shape, and size of body, and covering. Various environments in which they were discussed, including land, water, and air. Their homes and methods of securing food were seen in pictures and heard from stories, songs, and poems. Finally, how people use animals for food, clothing, and work concluded the concepts generally developed in the discussions.

The study of animals resulted in an investigation of plant life, because many animals live on plants. Experiences and observations on school journeys helped the children to realize that there are many kinds of plants. They also discovered that most of the common varieties have roots, stems, flowers, branches, leaves, and seeds. In addition, they observed that plants have distinguishing characteristics, such as the color of flower or fruit, size, shape, and color of leaves, and general shape and size. They also found out that people and animals use plants in various ways, including food, clothing, shelter, and enjoyment.
Summary

Procedures used in the reading program of Section A included only the traditional basic readers and one workbook. Section B was provided with the same traditional material, plus a piano, some flowers, poems on the bulletin board, and a fish bowl with two goldfish and several water snails. Section C was taught almost wholly by means of audio-visual aids. These devices did not supplant the basic readers and the workbook but supplemented them. The following seventeen auditory and visual aids were used in the readiness and beginning-reading program: (1) phonograph, (2) lantern slides, (3) radio, (4) motion picture, (5) puppets, (6) flash cards, (7) filmstrip, (8) excursions, (9) charts, (10) posters, (11) museum, (12) objects and models, (13) flannel board, (14) blackboard, (15) school experiments, (16) sandtable and (17) pictures and illustrations.
CHAPTER IV

RESULTS OF TEST SCORES WHICH INDICATED READING EFFICIENCY DEVELOPED BY THREE SECTIONS OF LOW-FIRST-GRADE PUPILS

A Comparison of Sections, A, B, and C at the Beginning of the Reading Experiment

A previous explanation of the method of procedure used in the present experiment indicated that three groups of low-first-grade pupils in the Luther Burbank School, Houston, Texas, were participants. It was also stated that these three groups were equated on the basis of mental maturity and reading readiness, as scored by the Pintner-Cunningham Primary Test, Form A and the Metropolitan Readiness Test. The median chronological age, mental age, intelligence quotient, and the median reading readiness score of each section at the beginning of the reading experiment is contained in Table 1.

These data show that the median chronological age of Section A was 76.8 months; Section B's was 76.9 months; and Section C's was 76.7. The slight difference between the ages of the children in the three groups was considered insignificant.
TABLE 1
MEDIAN CHRONOLOGICAL AGE, MENTAL AGE, INTELLIGENCE QUOTIENT AND MEDIAN READING READINESS SCORE OF SECTIONS A, B, AND C

<table>
<thead>
<tr>
<th>Items of Comparison</th>
<th>Section A</th>
<th>Section B</th>
<th>Section C</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chronological Age</td>
<td>76.8</td>
<td>76.9</td>
<td>76.7</td>
</tr>
<tr>
<td>Mental Age</td>
<td>82.3</td>
<td>78.0</td>
<td>75.7</td>
</tr>
<tr>
<td>Intelligence Quotient</td>
<td>106</td>
<td>104</td>
<td>99</td>
</tr>
<tr>
<td>Initial Reading Readiness</td>
<td>87.6</td>
<td>87.3</td>
<td>81.7</td>
</tr>
</tbody>
</table>

The median mental age for Group A was 82.3; Group B's was 78; and Group C's was 75.7. An analysis of these data show that Section A was 6.6 points higher than Section C and 4.3 points higher than Section B. Likewise, Section B was 2.3 points higher than Section C.

The median intelligence quotient of Section A was 106; of Section B was 104; and of Section C was 99. These scores indicate that Section A was seven points higher than Section C, and two points higher than Section B. Section C was five points below Section B.

The median initial reading readiness of Section A was 87.6; of Section B was 87.3; and of Section C was 81.7. An analysis of these data shows that Section A was .3 of a point above Section B and 5.9 points above Section C. Section B was 5.6 points above Section C.
The summary of preceding data in Table 1 indicates that Section A was above both Section B and C in the median chronological age, mental age, intelligence quotient, and median scores on initial reading readiness. This comparison is interesting in the light of the final scores on progress in reading efficiency for all three sections.

A Comparison of the Reading Status of Sections A, B, and C at the Conclusion of the Reading Experiment

Fifteen weeks were spent in the initial reading program of Sections, A, B, and C. During that time, traditional methods and materials were used by the teacher of Section A. Five basic readers were provided for these thirty-two children, supplemented by The Big Book which was adapted from the first twenty pages of the basic reader We Look and See. One work book was used. All the stories and drawings of the children were based on the pictures and reading material contained in the preceding books.

Children in Section B were taught with the same traditional methods and materials that were provided for Section A. In addition, they were provided with a piano, flowers, pictures, and poems on the bulletin board. No other audio-visual aids were utilized.

The reading program in Section C was based on the children's apparent needs. Seventeen audio-visual aids were used in connection with the same five basic readers and the
work book provided for the pupils in Sections A and B. In addition, six supplementary books were read.

At the end of fifteen weeks, the Metropolitan Readiness Test was administered to each section again, in the same manner as it was administered at the beginning of the reading experiment. Table 2 contains information on points in reading efficiency gained or lost by each child, according to the results of his tests. In order to find out the gain or loss of each child in Sections A, B, and C, the total score of each child's test which was administered at the beginning of the experiment was compared with his total score on the test administered at the end of the experiment. If he made a higher score on the last test than on the first test, it was concluded that he had gained the number of points which differentiated the scores. If he made a lower score on the last test than on the first one, it was concluded that he lost the number of points which differentiated the scores. If he made the same score on the first and last test, it was concluded that he neither gained nor lost in reading efficiency.
### Table 2

**Pupils' Gain or Loss in Reading Efficiency as Indicated by Test Results**

<table>
<thead>
<tr>
<th>Pupil</th>
<th>A (Points Gained)</th>
<th>A (Points Lost)</th>
<th>B (Points Gained)</th>
<th>B (Points Lost)</th>
<th>C (Points Gained)</th>
<th>C (Points Lost)</th>
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<tr>
<td>Total</td>
<td>119</td>
<td>8</td>
<td>108</td>
<td>31</td>
<td>468</td>
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Data in Table 2 show that the combined gain in reading efficiency of all children in Section A was 119 points; in Section B, 108 points; and in Section C, 466 points. The highest number of points gained by an individual child in Section A was fourteen; in Section B, twenty-seven; and in Section C, thirty-six. The lowest number of points gained by an individual child in Section A was one; in Section B, one; and in Section C, two.

The highest number of points lost by an individual child in Section A was four; in Section B, fourteen; and in Section C, five. The lowest number of points lost by an individual in Section A was one; in Section B, one; and in Section C, five.

Data in Table 2 also show that three children in Section A lost points in reading efficiency. In Section B, six children lost points, and in Section C, only one child lost points.

An analysis of data in Table 2 resulted in the following findings:

1. The pupils in Section C gained more points in reading efficiency than did children in Section A or B.

2. Fewer points were lost in reading efficiency by children in Section C than by pupils in Section A or B.

3. A greater number of children in Section C than in Sections A or B gained points in reading efficiency.
4. A smaller number of children in Section C than in Sections A or B lost points in reading readiness.

5. Children in Section B gained fewer points in reading efficiency and lost more points than did the pupils in Sections A or C.

A consideration of the findings which resulted from an analysis of data in Table 2 led to the following conclusions:

1. Pupils in Section C progressed more in reading efficiency, according to test scores, than did children in Sections A or B.

2. Fewer pupils in Section C than in Sections A or B failed to progress in reading efficiency.

3. Pupils in Section B progressed less in reading efficiency, according to test scores, than did children in Sections A or C.

4. More children in Section B than in Sections A or C failed to show progress in reading efficiency.
Summary

A comparison of Sections A, B, and C at the beginning of the reading experiment, as indicated by test results, showed that the median chronological age of Section A was 76.8; B's was 76.9; and C's was 76.7. Section A's median mental age was 82.3; B's was seventy-eight; and C's was 75.7. Section A's median intelligence quotient was 108; B's was 104; and C's was ninety-nine. Section A's median readiness score was 87.6; B's was 87.3; and C's was 81.7.

A comparison of the reading status of Sections A, B, and C at the conclusion of the reading experiment showed that all the pupils combined in Section A had a gain of 119 points; B's gain was 108 points; and C's gain was 486 points. Section A's loss in reading efficiency was eight points; B's loss was thirty-one points; and C's loss was five points. Three pupils in Section A, six in Section B, and one in Section C showed losses on the final test.
CHAPTER V

SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

Summary

This study was related to the problem of teaching reading to 101 children in the low-first grade of the Luther Burbank School, Houston, Texas, with and without audio-visual aids. The experiment concerned the methods and materials used by three teachers in three equated low-first-grade sections designated as A, B, and C. The groups were equated upon the basis of mental maturity, as scored by the Pintner-Cunningham Primary Test, Form A. The mental maturity test was followed by the Metropolitan Readiness Test. After fifteen weeks of preparatory reading program, the Metropolitan Readiness Test was administered again. The progress in reading efficiency was considered to be the result, primarily, of the reading procedures utilized during the fifteen weeks of experimentation.

Only traditional methods and materials were used in Section A. The same type of program was carried on in Section B, with the addition of a piano in the room, flowers, poems and pictures on the bulletin board, a fish bowl, and several experience charts. Section C utilized the following audio-visual aids: the phonograph, lantern slides, the radio,
motion pictures, puppets, flash cards, charts, film strips, excursions, posters, school museum, objects and models, and specimens, flannel board, blackboard, bulletin board, school experiments, and the sandtable.

A comparison of scores made by each individual child on the first readiness test and their scores on the final test administered at the end of the reading experiment showed that pupils in Section C progressed more in reading efficiency, according to test scores than did children in Sections A or B. Fewer pupils in Section C than in Sections A or B failed to progress in reading efficiency. Pupils in Section B progressed less in reading efficiency, according to test scores, than did children in Section A or C. More children in Section B than in Sections A or C failed to show progress in reading efficiency.

Conclusions

Findings indicated that children in Section C gained more points in reading efficiency on tests than did the pupils in Sections A or B. The writer, therefore, concluded that the use of audio-visual aids was conducive to progress in reading efficiency in the present experiment.

The writer also concluded that the percentages of gains in reading efficiency made by the students indicated that a complete visual and auditory educational program will vitalize the school program as it now exists and will serve
as a powerful motivating factor. It can be expected to displace few, if any, of the present methods of teaching. It should be used solely for the purpose of enriching the present set-up.

The findings of the present investigation demonstrate vividly that much more vital teaching is possible than has heretofore been the case, and that a lack of beneficial instruction in reading is an inexcusable loss. The use of mechanical aids is merely another method of vitalizing and enriching the present educational methods and is by no means an end within itself.

The writer also concluded that no fixed time of day or week should be set aside for the use of the audio-visual education material, but such material should be utilized when and where needed. What is true of the use of these aids in the teaching of reading probably is also true in any other field in which adequate materials are available.

Recommendations

An analysis of the findings which resulted from the present experiment and the conclusions, which were based on the findings, led the writer to make the following recommendations:

1. Classroom teachers should use every time and occasion presented to them for increasing the child's educational background by utilizing audio-visual aids as instructional tools.
2. Classroom teachers, supervisors, and administrators should "educate themselves" in regard to the various types of audio-visual aids and their possibilities, if college training along such lines is not available.

3. Classroom teachers should administer achievement tests periodically, in connection with the use of audio-visual aids, in order to determine the apparent success of the program in which the aids are used.

4. Auditory and visual instruction should be a part of every school program and should be used to enrich the curriculum instead of providing entertainment alone.
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